Considered
02/01/05
MPC

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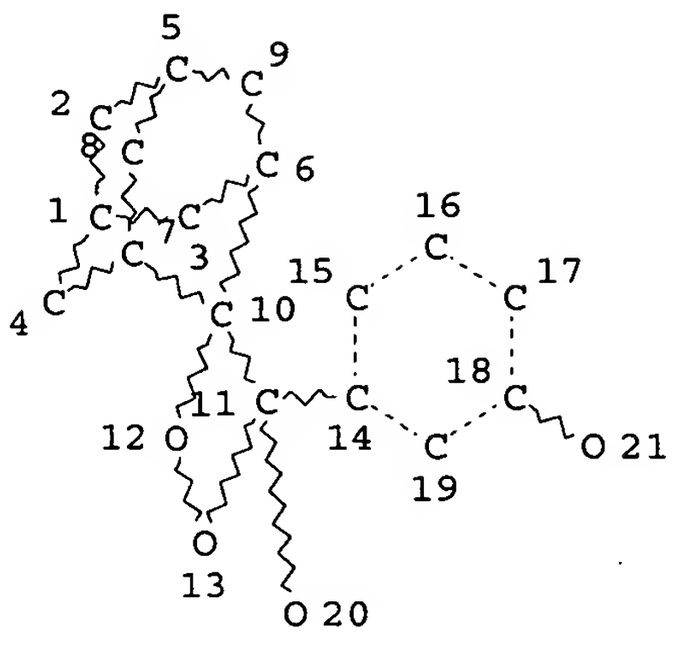

Broad Structure
limited by text

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

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L33	2	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L7 AND L31
L34	2	SEA	FILE=HCAPLUS	ABB=ON	PLU=ON	L32 AND L33
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L38 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:555736 HCAPLUS
DOCUMENT NUMBER: 137:106074
TITLE: **Dendritic chemiluminescent** substrates
INVENTOR(S): Sparks, Alison L.
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 116 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2002057745	A2	20020725	WO 2002-US22	20020108
WO 2002057745	A3	20030313		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002155523	A1	20021024	US 2002-38626	20020108
EP 1358344	A2	20031105	EP 2002-713345	20020108

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004524521	T2	20040812	JP 2002-557779	20020108

PRIORITY APPLN. INFO.:	US 2001-259870P	P 20010108
	US 2001-286383P	P 20010426
	WO 2002-US22	W 20020108

OTHER SOURCE(S): MARPAT 137:106074

AB The invention concerns **chemiluminescent** substrate delivery systems comprising a conjugate a **dendrimer** and at least one **chemiluminescent** substrate are provided. The substrate delivery systems can also include a **chemiluminescence** enhancer. The **dendrimer/chemiluminescent** substrate conjugates can be used in kits including an enzyme capable of activating the **chemiluminescent** substrate to produce a per-oxygenated intermediate that decomps. to produce light. The **dendrimer/chemiluminescent** substrate conjugates can be used in assays to detect the presence of an analyte (e.g., an enzyme, an antibody, an antigen or a nucleic acid) in a sample.

IC ICM G01N

CC 9-14 (Biochemical Methods)
Section cross-reference(s): 6, 7

ST **dendrimer chemiluminescent** light substrate conjugate enzyme immunoassay nucleic acid

IT Sulfonic acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(alkanesulfonic; **dendritic chemiluminescent** substrates)

IT Sulfonamides
Urethanes
RL: NUU (Other use, unclassified); USES (Uses)
(alkyl; **dendritic chemiluminescent** substrates)

IT Sulfonic acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(arenesulfonic; **dendritic chemiluminescent** substrates)

IT Oxides (inorganic), uses
Sulfonamides
Urethanes
RL: NUU (Other use, unclassified); USES (Uses)
(aryl-; **dendritic chemiluminescent** substrates)

IT Amides, uses
RL: NUU (Other use, unclassified); USES (Uses)
(aryl; **dendritic chemiluminescent** substrates)

IT Bond
(covalent; **dendritic chemiluminescent** substrates)

IT **Chemiluminescent** substances
Conjugation (molecular association)
DNA sequence analysis
Immunoassay
Light
Luminescence, bioluminescence
Membranes, nonbiological
Oxidation
Test kits
(**dendritic chemiluminescent** substrates)

IT Antibodies and Immunoglobulins
Antigens
Nucleic acids
RL: ANT (Analyte); ANST (Analytical study)
(**dendritic chemiluminescent** substrates)

IT Probes (nucleic acid)
RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(**dendritic chemiluminescent** substrates)

IT Enzymes, analysis
RL: ANT (Analyte); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
(**dendritic chemiluminescent** substrates)

IT DNA
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)
(**dendritic chemiluminescent** substrates)

IT **Dendritic polymers**
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(**dendritic chemiluminescent** substrates)

IT Amides, uses
Carboxylic acids, uses
Esters, uses
Quaternary ammonium compounds, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**dendritic chemiluminescent** substrates)

IT Amines, properties
RL: PRP (Properties)
(polyamines, nonpolymeric, amido, carboxylic acid, hydroxyl, amino surface group derivs.; **dendritic chemiluminescent** substrates)

IT Solubilization
(water; **dendritic chemiluminescent** substrates)

IT 6788-84-7DP, 1,2-Dioxetane, derivs. 113818-92-1DP, reaction with dioxetane 163442-67-9P, Starburst 4th Generation
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(**dendritic chemiluminescent** substrates)

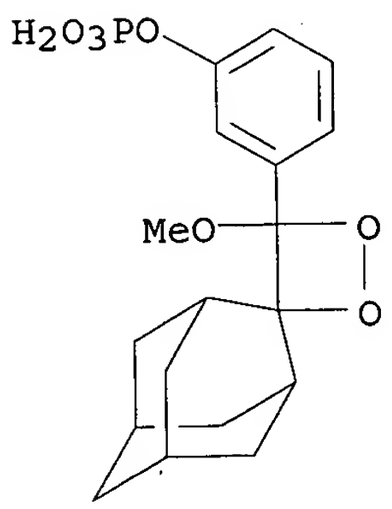
IT 9001-92-7, Protease 9013-05-2, Phosphatase 9013-79-0, Esterase 9031-96-3, Peptidase 9032-92-2, Glycosidase 9035-73-8, Oxidase 14798-03-9D, Ammonium, amino linked 16749-13-6, Phosphonium 18155-21-0, Sulfonium
RL: NUU (Other use, unclassified); USES (Uses)
(**dendritic chemiluminescent** substrates)

IT 63-74-1D, Sulfonylamide, acridinium derivs. 521-31-3, Luminol 2591-17-5, Luciferin 3682-14-2, Isoluminol 6788-84-7, Dioxetane 22559-71-3, Acridinium **122341-56-4 142849-53-4 443643-96-7**
RL: PRP (Properties)

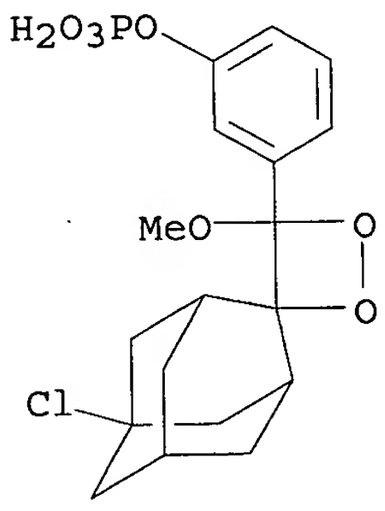
(**dendritic chemiluminescent** substrates)

IT **122341-56-4 142849-53-4 443643-96-7**
RL: PRP (Properties)
(**dendritic chemiluminescent** substrates)

RN 122341-56-4 HCAPLUS
CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)

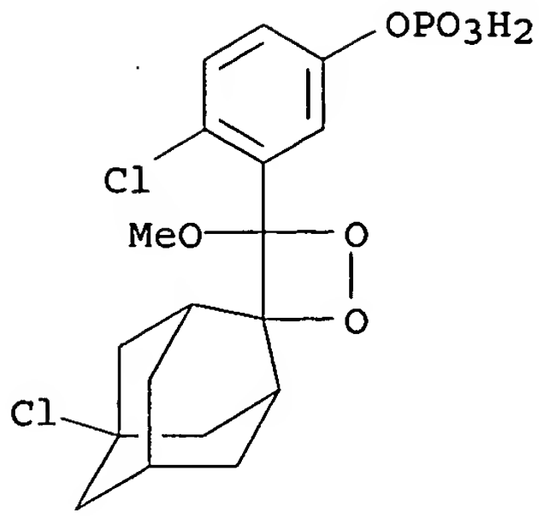


RN 142849-53-4 HCAPLUS
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 443643-96-7 HCAPLUS
CN Phenol, 4-chloro-3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L38 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:753386 HCAPLUS
DOCUMENT NUMBER: 132:1798
TITLE: Multimolecular devices, drug delivery systems and single-molecule selection
INVENTOR(S): Cubicciotti, Roger S.
PATENT ASSIGNEE(S): Molecular Machines, Inc., USA
SOURCE: PCT Int. Appl., 276 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9960169	A1	19991125	WO 1999-US11215	19990520
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6287765	B1	20010911	US 1998-81930	19980520
CA 2328599	AA	19991125	CA 1999-2328599	19990520
AU 9941947	A1	19991206	AU 1999-41947	19990520
EP 1080231	A1	20010307	EP 1999-925714	19990520
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002034757	A1	20020321	US 2001-907385	20010717
US 6762025	B2	20040713		

PRIORITY APPLN. INFO.: US 1998-81930 A 19980520
WO 1999-US11215 W 19990520

AB Single-mol. selection methods are provided for detecting and identifying useful synthetic nucleotides, e.g., aptamers, ribozymes, catalytic DNA mols., nucleotide catalysts, nucleotide ligands and nucleotide receptors. Methods for selecting shape-specific probes and specifically attractive surfaces are also provided. Paired nucleotide-nonnucleotide mapping

libraries for transposing selected populations of selected nonoligonucleotide mols. into selected populations of replicatable nucleotide sequences are also provided. Aptameric and nonaptameric multimol. devices, imprints and delivery systems are also provided, including mol. adsorbents, adherents, adhesives, transducers, switches, sensors, and drug delivery systems. Thus, a 30-nucleotide defined DNA sequence capable of specifically binding to prostate-specific antigen (PSA) was selected by repeated cycles of partitioning and amplification of progressively higher-affinity nucleic acid ligands from a candidate mixture A 2nd defined DNA segment was designed to hybridize to a region of the 1st of 2 types of single-stranded arms of the outermost layer of a 4-layer DNA **dendrimer**. A synthetic heteropolymer comprising these 2 defined DNA sequences separated by a 15-nucleotide spacer was produced with an automated DNA synthesizer. This synthetic heteropolymer was then hybridized to the 4-layer DNA **dendrimer** as a molar ratio of .apprx.(3-10):1 to produce a multivalent PSA-binding heteropolymeric hybrid which can be used in PSA assays which rely on secondary labeling reagents such as radiolabeled, biotinylated, or digoxigenin-modified oligonucleotides. Alternatively, a signal-generating species such as R-phycoerythrin can be attached directly to the heteropolymeric hybrid, which can be used as a primary labeling reagent.

IC ICM C12Q001-68
ICS C07H021-04; C07H021-02

CC 9-2 (Biochemical Methods)
Section cross-reference(s): 3, 63

ST oligonucleotide ligand multimol device; DNA hybridization mol machine; drug delivery aptamer; prostate specific antigen detection **dendrimer**

IT **Dendritic polymers**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(DNA; multimol. devices, drug delivery systems and single-mol. selection)

IT 5-HT agonists
Anticoagulants
Chemiluminescence spectroscopy
Drug design
Genomic library
Immobilization, biochemical
Luminescence spectroscopy
Microscopy
Nanomachines
Nucleic acid hybridization
Scanning probe microscopy
(multimol. devices, drug delivery systems and single-mol. selection)

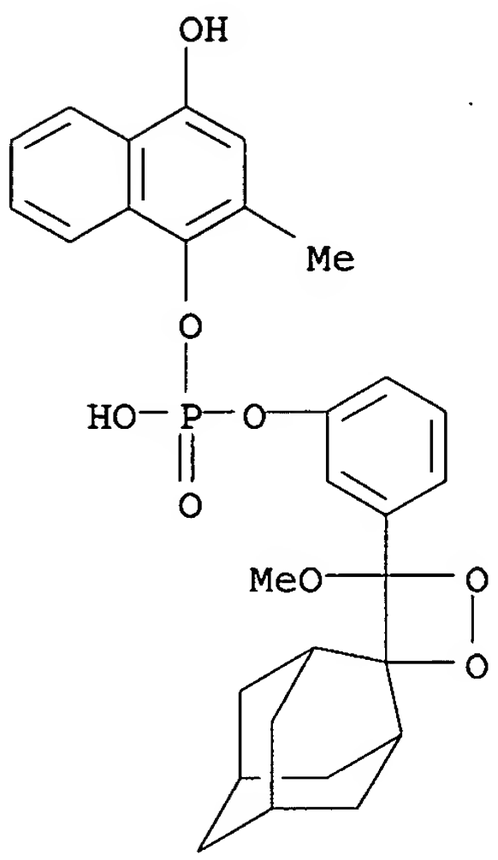
IT 9003-99-0, Peroxidase **133301-02-7**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in **chemiluminescence** anal.; multimol. devices, drug delivery systems and single-mol. selection)

IT **124951-96-8P**, AMPPD
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in **chemiluminescence** anal.; multimol. devices, drug delivery systems and single-mol. selection)

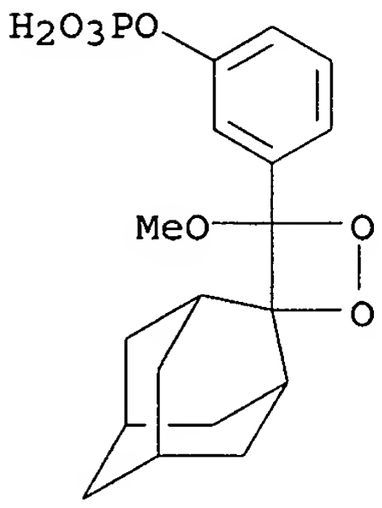
IT **133301-02-7**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(in **chemiluminescence** anal.; multimol. devices, drug delivery systems and single-mol. selection)

RN 133301-02-7 HCAPLUS
CN Phosphoric acid, mono(4-hydroxy-2-methyl-1-naphthalenyl)

mono[3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl] ester (9CI) (CA INDEX NAME)



IT **124951-96-8P**, AMPPD
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in **chemiluminescence** anal.; multimol. devices, drug delivery systems and single-mol. selection)
RN 124951-96-8 HCAPLUS
CN Phenol, 3-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Considered 02/01/05
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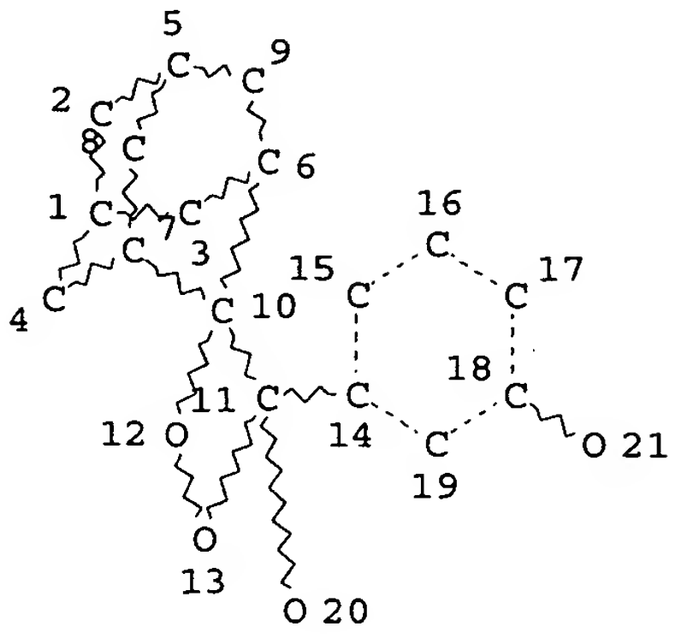

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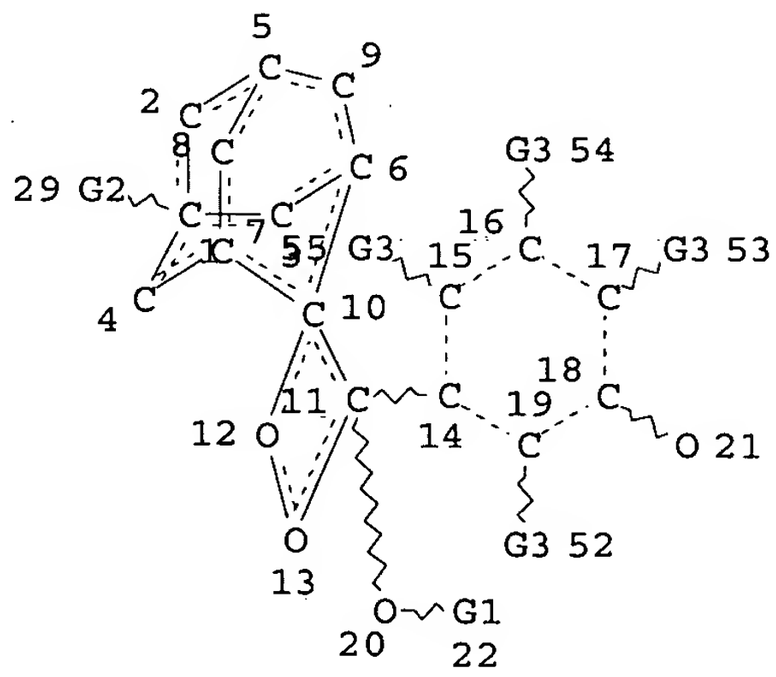

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VAR G3=H/X/23/47

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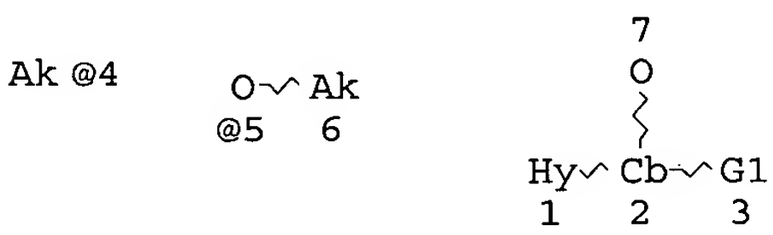


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DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   7

STEREO ATTRIBUTES: NONE
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L21           60 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20


=> d l21 ibib ab hitstr 1-60

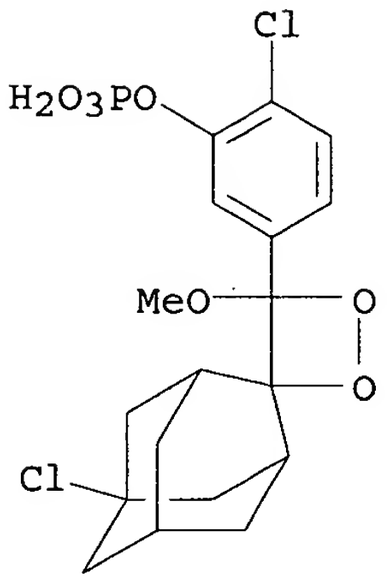
L21  ANSWER 1 OF 60  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2004:964693  HCAPLUS
```

DOCUMENT NUMBER: 141:406719
TITLE: Detection of analytes anchored on nucleic acid templates using terminal phosphate-labeled nucleotides, nucleic acid polymerase, and 3'→5'-exonuclease
INVENTOR(S): Sood, Anup; Kumar, Shiv; Fuller, Carl; Nelson, John
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp., Cont.-in-part of Ser. No. US 2002-113030, filed on 1 Apr 2002 which is
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004224319	A1	20041111	US 2003-651582	20030829
US 2003077610	A1	20030424	US 2002-113030	20020401
US 2003096253	A1	20030522	US 2002-113025	20020401
PRIORITY APPLN. INFO.:			US 2001-315798P	P 20010829
			US 2002-113025	A2 20020401
			US 2002-113030	A2 20020401
			US 2002-406892P	P 20020829
			US 2002-406893P	P 20020829
			US 2002-406894P	P 20020829

AB A method of characterizing an analyte sample is provided that includes the steps of: (a) anchoring the analyte to a nucleic acid template of known sequence; (b) conducting a DNA polymerase reaction that includes the reaction of a template, a non-hydrolyzable primer, at least one terminal phosphate-labeled nucleotide, DNA polymerase, and an enzyme having 3'→5' exonuclease activity which reaction results in the production of labeled polyphosphate; (c) permitting the labeled polyphosphate to react with a phosphatase to produce a detectable species characteristic of the sample; (d) detecting the detectable species. The method may include the step of characterizing the nucleic acid sample based on the detection. Syntheses of dideoxynucleotide triphosphate or tetraphosphate conjugates with resorufin, coumarin, and DDAO are also described. Also provided are methods of analyzing multiple analytes in a sample, and kits for characterizing analyte samples. In one embodiment of the invention, exonuclease III is used to amplify signal generated by incorporation of nucleotides labeled on the terminal phosphate with fluorogenic dyes.

IT **288576-32-9**, 2-Chloro-5-(4-methoxyspiro[1,2-dioxetane'3,2'-(5-chloro)tricyclo[3,3,1-13,7]decan]1-yl)-1-phenyl phosphate
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(detection of analytes anchored on nucleic acid templates using terminal phosphate-labeled nucleotides, nucleic acid polymerase, and 3'→5'-exonuclease)
RN 288576-32-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



L21 ANSWER 2 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:878060 HCAPLUS
DOCUMENT NUMBER: 141:328118
TITLE: Methods and compositions for directed microwave chemistry
INVENTOR(S): Martin, Mark T.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 37 pp., Cont.-in-part of U.S. Ser. No. 234,092.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

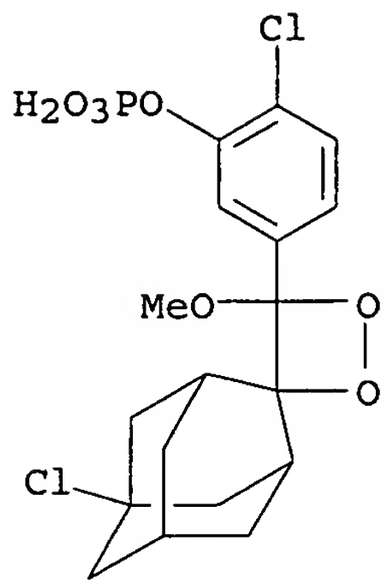
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004209303	A1	20041021	US 2004-842512		20040511
US 2002197645	A1	20021226	US 2001-968517		20011002
US 2003082633	A1	20030501	US 2002-234092		20020905
PRIORITY APPLN. INFO.:			US 2000-237192P	P	20001003
			US 2001-968517	A2	20011002
			US 2002-234092	A2	20020905

AB The present invention concerns a novel means by which chemical prepns. can be made. Reactions can be accelerated on special cartridges using microwave energy. The chips contain materials that efficiently absorb microwave energy causing chemical reaction rate increases. The invention is important in many chemical transformations including those used in protein chemical, in nucleic acid chemical, in anal. chemical, and in the polymerase chain reaction.

IT **160081-62-9**, CDP-star
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(methods and compns. for directed microwave chemical)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 3 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:633165 HCAPLUS
DOCUMENT NUMBER: 141:168935
TITLE: Solid phase sequencing of nucleic acids using terminal phosphate-labeled nucleotides
INVENTOR(S): Sood, Anup; Kumar, Shiv; Nelson, John; Fuller, Carl
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 26 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004152119	A1	20040805	US 2004-773000	20040205
WO 2004071155	A2	20040826	WO 2004-US3283	20040205

W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-445193P P 20030205
OTHER SOURCE(S): MARPAT 141:168935

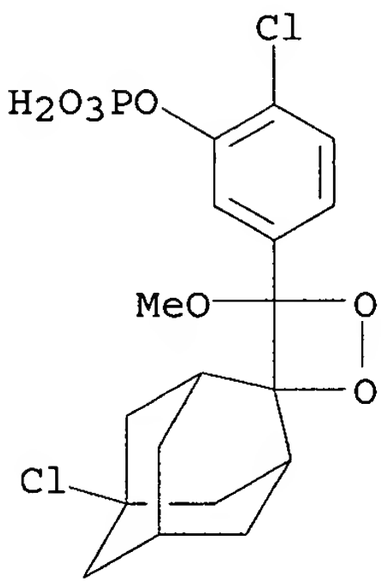
AB The present invention describes methods of sequencing a nucleic acid in a sample, based on the use of terminal phosphate-labeled nucleotides as substrates for nucleic acid polymerases. The methods provided by this invention utilize a nucleoside polyphosphate, dideoxynucleoside polyphosphate, or deoxynucleoside polyphosphate analog which has a colorimetric dye, chemiluminescent, or fluorescent moiety, a mass tag, or

an electrochem. tag attached to the terminal phosphate. When a nucleic acid polymerase uses this analog as a substrate, an enzyme-activatable label would be present on the inorg. polyphosphate byproduct of phosphoryl transfer. Cleavage of the polyphosphate product of phosphoryl transfer via phosphatase leads to a detectable change in the label attached thereon. In some instances the labeled polyphosphate may be detected directly via the label and provide information on the nucleic acid. When the polymerase assay is performed in the presence of a phosphatase, there is provided a convenient method for real-time monitoring of DNA or RNA synthesis and characterization of a target nucleic acid.

IT **160081-62-9**, CDP-STAR
RL: ARG (Analytical reagent use); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
(chemiluminescent compound; solid phase sequencing of nucleic acids using terminal phosphate-labeled nucleotides)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 4 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	2004:633162 HCAPLUS
DOCUMENT NUMBER:	141:168933
TITLE:	Detecting nucleic acid amplification by monitoring hydrolysis of labeled nucleoside polyphosphates
INVENTOR(S):	Sood, Anup; Kumar, Shiv; Nelson, John; Fuller, Carl; Sekher, Anuradha
PATENT ASSIGNEE(S):	USA
SOURCE:	U.S. Pat. Appl. Publ., 32 pp. CODEN: USXXCO
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

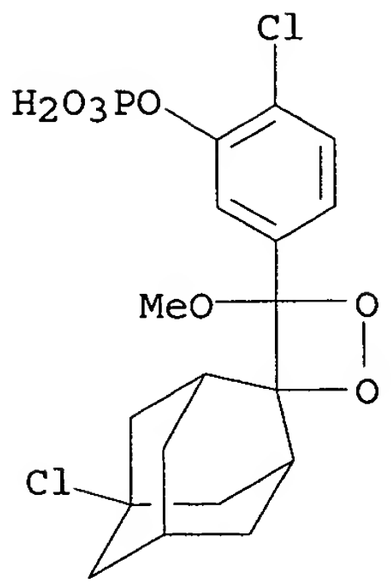
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 2004152104 A1 20040805 US 2003-651362 20030829
WO 2004072304 A1 20040826 WO 2003-US27287 20030829
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2003-445274P P 20030205
OTHER SOURCE(S): MARPAT 141:168933

AB Methods of using nucleoside triphosphates that carry a label in the β- or γ-phosphate of the triphosphate or a polyphosphate derivative are described for use as substrates for nucleic acid polymerases in nucleic acid amplification. Progress of the amplification is therefore followed by release of label rather than by its incorporation into the macromol. amplification product. The labels may be chemiluminescent, fluorescent, electrochem. or chromogenic moieties or mass labels and may include those that are directly detectable, detectable after the cleavage product is processed by another enzyme or other processes to generate a different signal. Specifically, acridinone derivs. of nucleoside triphosphates are described. Reagents that can stabilize terminal-phosphate labeled nucleoside polyphosphates in aqueous solns. at the elevated temps used in nucleic acid amplification and are useful for reducing non-enzymic hydrolysis of these nucleotides, and hence decrease background are also identified. In particular, these reagents stabilized the terminal-phosphate labeled nucleoside polyphosphates in the presence of MnCl2 used to relax substrate specificity for many DNA polymerases. Synthesis of δ-9H(1,3-dichloro-9,9-dimethylacridine-2-one-7-yl)deoxythymidine-5'-tetraphosphate (dT4P-DDAO) using carbodiimide chemical is described. Analogs of dATP, dCTP and dGTP were also prepared. These nucleoside triphosphate derivs. could be used as substrates by some, but not all, thermostable DNA polymerases in PCR. The acridinone phosphate released during PCR did not fluoresce, but fluorescence was seen after treatment with alkaline phosphatase. Stabilization of dT4P-DDAO against manganese-mediated hydrolysis at 37° using glycerol 5% or ammonium sulfate 10 mM is demonstrated.

IT **160081-62-9**, CDP-Star
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(as reporter group; detecting nucleic acid amplification by monitoring hydrolysis of labeled nucleoside polyphosphates)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



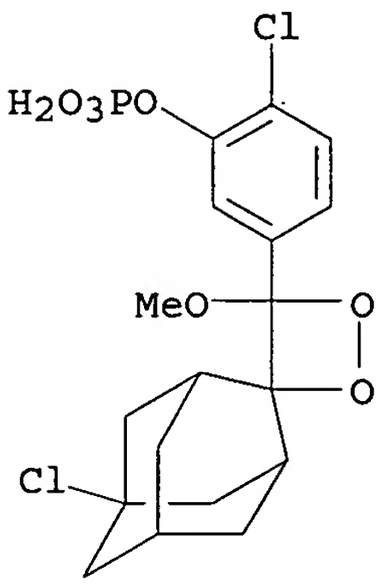
●2 Na

L21 ANSWER 5 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:411969 HCAPLUS
DOCUMENT NUMBER: 140:388238
TITLE: Assay method using biochemical analysis unit, and biochemical analysis apparatus
INVENTOR(S): Nakashima, Kenji
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004144606	A2	20040520	JP 2002-309686	20021024
US 2004132210	A1	20040708	US 2003-692011	20031024
PRIORITY APPLN. INFO.:			JP 2002-309686 A	20021024

AB The assay method involves specifically binding of receptors or ligands to ligands or receptors bound to porous adsorption areas on a biochem. anal. unit under forced flow of the receptors or ligands across the adsorption areas and detection of the specific binding using labeling substances, wherein dissolved gases are reduced in the solns. to be subjected to forced flow or bubbles are removed from or dissolved in the solns. during flowing. The apparatus has a container containing members for attachment of the biochem. anal. unit for reaction of the ligands or receptors with compds. specifically binding to the ligands or receptors, a means for forced flow of reaction solns. containing the specifically binding substances in the container, and a means for removal or dissoln. of bubbles from or in the reaction solns., resp. Single-stranded pBR328-DNA was adsorbed on the adsorption areas (nylon 66 membrane) on a biochem. anal. unit, hybridized with digoxigenin-labeled pBR328-DNA in a buffer (dissolved O concentration 1.5 mg/L), treated with anti-digoxigenin-alkaline phosphatase conjugate, and detected by chemiluminescence using CDP-star as a substrate. The labeled pBR328-DNA (0.1, 0.5, and 5 pg) was detected with improved S/N ratio compared to a control without degassing or bubble removal.

IT **160081-62-9**, CDP-star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent substrate; degassing of or bubble removal from reaction solns. under forced flow in assay using biochem. anal. unit for detection of receptors or ligands with labeling substances)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 6 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:355102 HCAPLUS
DOCUMENT NUMBER: 140:335284
TITLE: Rapid coliform detection system
INVENTOR(S): Van Dyke, Michele I.; Palmateer, Garry A.; Pintar, Katarina D. M.
PATENT ASSIGNEE(S): Conestoga-Rovers & Associated Limited, Can.
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035809	A1	20040429	WO 2002-CA1557	20021017

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: WO 2002-CA1557 20021017

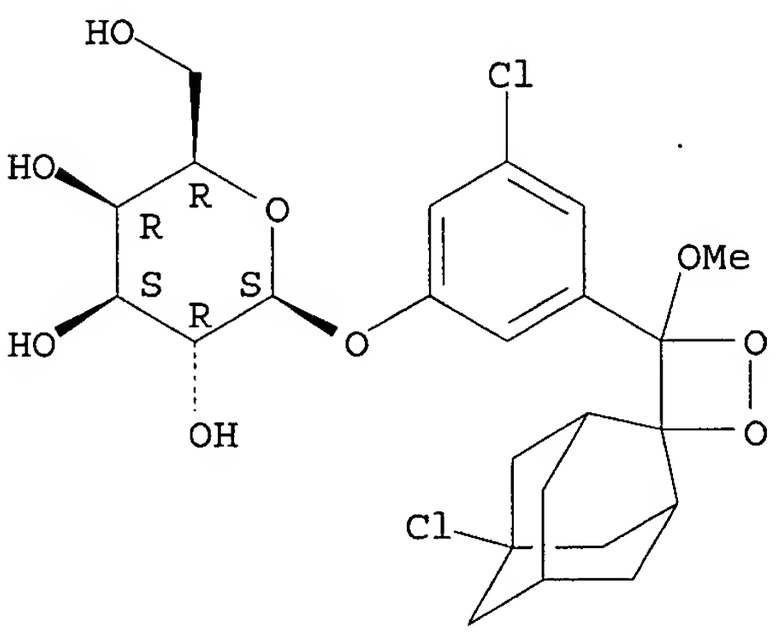
AB A system for rapidly determining the presence or quantity of coliform bacteria in a water sample using the enzymes β-D-galactosidase and β-D-glucuronidase. The system includes a first filter means for separating bacteria from the sample and a broth for culturing the bacteria including an inducing agent for inducing enzyme production A second filter means is used to sep. the cultured bacteria from the broth. A lysing agent is exposed to the bacteria on the second filter and incubated with a chemiluminogenic substrate of the enzyme to produce a chemiluminescent product. Light emission is initiated from the second filter means and the emitted light is detected or measured directly from the second filter means using a luminometer adapted to receive the second filter means. The system is especially effective at improving the sensitivity and specificity of the assay by increasing the signal received from encapsulated target organisms and reducing the interference from non-target organisms that may be present in the sample.

IT **181285-38-1**, Galacton-Plus
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(coliform bacteria detection system)

RN 181285-38-1 HCAPLUS

CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 7 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:203952 HCAPLUS

DOCUMENT NUMBER: 140:249772

TITLE: Analyte detection

INVENTOR(S): Sood, Anup; Kumar, Shiv; Fuller, Carl; Nelson, John

PATENT ASSIGNEE(S): Amersham Biosciences Corp., USA

SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 8

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2004020603	A2	20040311	WO 2003-US27285	20030829
WO 2004020603	A3	20040422		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-406893P P 20020829

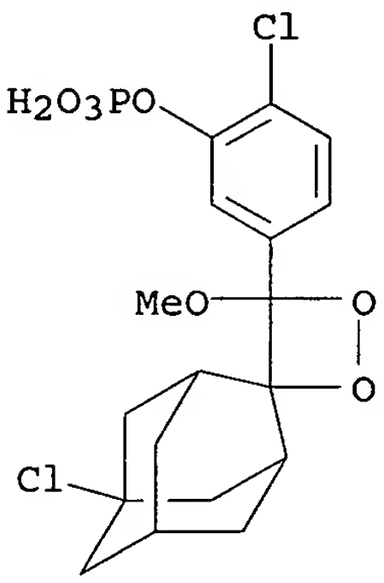
OTHER SOURCE(S): MARPAT 140:249772

AB A method of characterizing an analyte sample is provided that includes the steps of: (a) anchoring the analyte to a nucleic acid template of known sequence; (b) conducting a DNA polymerase reaction that includes the reaction of a template, a non-hydrolyzable primer, at least one terminal phosphate-labeled nucleotide, DNA polymerase, and an enzyme having 3' 5' exonuclease activity which reaction results in the production of labeled polyphosphate; (c) permitting the labeled polyphosphate to react with a phosphatase to produce a detectable species characteristic of the sample; (d) detecting the detectable species. The method may include the step of characterizing the nucleic acid sample based on the detection. Also provided are methods of analyzing multiple analytes in a sample, and kits for characterizing analyte samples.

IT **288576-32-9**
RL: ARU (Analytical role, unclassified); ANST (Analytical study) (analyte detection)

RN 288576-32-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



L21 ANSWER 8 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:181876 HCAPLUS

DOCUMENT NUMBER: 140:213563

TITLE: Chemical luminescence method for immunoassay using biochemical analysis unit provided with porous adsorptive regions and enzyme-labeled antibody

INVENTOR(S): Nakajima, Kenji

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1394547	A1	20040303	EP 2003-19459	20030828
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004093152	A2	20040325	JP 2002-250760	20020829
US 2004048322	A1	20040311	US 2003-649719	20030828

PRIORITY APPLN. INFO.: JP 2002-250760 A 20020829

AB A biochem. anal. unit provided with porous adsorptive regions, to which ligands or receptors have been bound resp., is obtained. A labeled receptor or a labeled ligand is subjected to specific binding with the ligands or the receptors and is specifically bound to at least one of the ligands or at least one of the receptors. An enzyme-labeled antibody is subjected to specific binding with the labeled receptor or the labeled ligand with an operation, wherein a reaction liquid containing the enzyme-labeled antibody is forcibly caused to flow such that the reaction liquid containing the enzyme-labeled antibody flows across each of the porous adsorptive regions of the biochem. anal. unit. A chemical luminescence substrate is then reacted with the enzyme-labeled antibody. In an example, the reaction apparatus (microarray) using nylon membrane and digoxigenin-labeled pBR328-DNA for application in the chemical luminescence method of the invention is provided.

IT **160081-62-9**, CDP star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemical luminescence method for immunoassay using biochem. anal. unit provided with porous adsorptive regions and enzyme-labeled antibody)

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

●2 Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

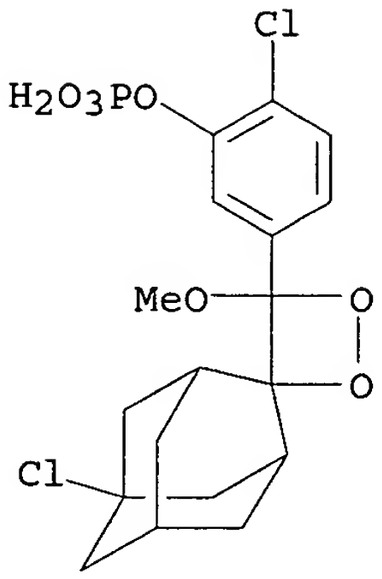
L21 ANSWER 9 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:120592 HCAPLUS
DOCUMENT NUMBER: 140:175104
TITLE: Inactivation of viral infectious agents by chemiluminescence activated light-sensitive compounds
INVENTOR(S): Castor, Trevor; Lallos, Lisa Bastiani; Ilynskii, Petr O.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 14 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004029975	A1	20040212	US 2002-280111		20021024
PRIORITY APPLN. INFO.:			US 2001-334992P	P	20011024

AB Described herein is an invention that relates to chemiluminescence-directed antiviral activities of natural and synthesized light-sensitive compds. Methods are described herein for inactivating infectious virus particles outside and inside an organism. These methods incorporate coupling the antiviral activity of various light-sensitive compds. with chemiluminescence directed by native as well as foreign enzymes of the organism and enhanced by the addition of various anti-quenchers and wavelength-shifting compds. The methods described herein feature light-sensitive compds. with known antiviral activity exhibited in the presence of light. CEM-TART cells infected with 13-20 TCID50 of HIV-1Δtat/Δrev were incubated with hypericin, alkaline phosphatase and a chemiluminescent substrate, CDP-Star. Not only did hypericin inactivate extracellular virus, but it also eliminated virus from infected cells.

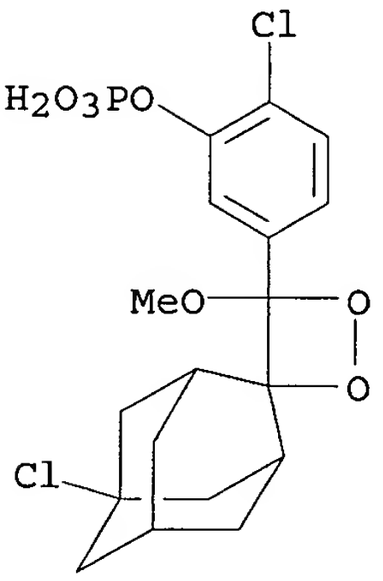
IT **160081-62-9**, CDP-STAR **160081-62-9D**, CDP-STAR, derivs.
RL: PAC (Pharmacological activity); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(as chemiluminescence substrate; inactivation of viral infectious agents by chemiluminescence-activated light-sensitive compds.)

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

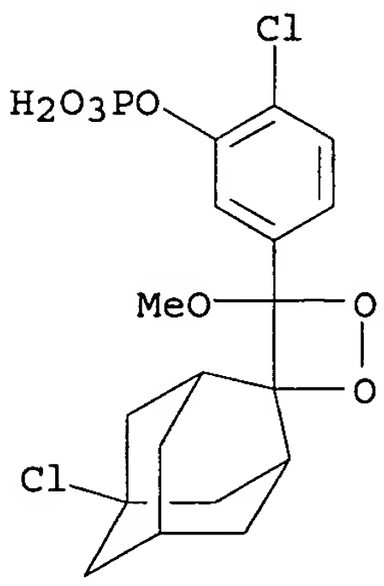
L21 ANSWER 10 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:1005764 HCAPLUS
DOCUMENT NUMBER: 140:193988
TITLE: Assessment of a method for detecting serum HBV DNA with HBV DNA probe labelled directly by alkaline phosphatase
AUTHOR(S): Chen, Ya-Xi; Huang, Ai-Long; Qi, Zhen-Yuan; Shan, You-Lan; Sun, Hang
CORPORATE SOURCE: Institute for Viral Hepatitis, Chongqing University of Medical Sciences, Chongqing, 400010, Peop. Rep. China
SOURCE: Hepatobiliary & Pancreatic Diseases International (2003), 2(4), 553-556

CODEN: HPDIAJ; ISSN: 1499-3872
PUBLISHER: First Affiliated Hospital, Zhejiang University School of Medicine
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Objective: To assess a sensitive and specific technique for detecting serum HBV DNA with an HBV DNA probe labeled directly by alkaline phosphatase (AlkPhos Direc probe). Methods: AlkPhos Direc probe was prepared with purified HBV DNA labeled directly by alkaline phosphatase. The probe and chemiluminescent substrate CDP-star for AP were used in hybridization assay. HBV DNA was detected by autoradiog. on a film. The results of 80 samples were compared between the chemiluminescent dot blot hybridization assay with the AlkPhos Direc probe and another assay with the digoxigenin-labeled HBV DNA probe. The correlation of seventy-sample results of fluorescent quant. HBV DNA PCR assay and dot blot hybridization assay with the AlkPhos Direc probe was analyzed. Results: The sensitivity of the AlkPhos Direc probe was 10 pg at least. The coincidence of the AlkPhos Direc probe was 100% compared with that of the digoxigenin-labeled HBV DNA probe. A correlation coefficient of HBV DNA quant. results between fluorescent quant. HBV DNA PCR assay and dot blot hybridization assay with the AlkPhos Direc probe was 0.98. Conclusions: The method detecting HBV DNA in serum with the HBV DNA AlkPhos Direc probe is sensitive and specific. The results of the two assays with the AlkPhos Direc probe or with the digoxigenin-labeled HBV DNA probe are completely coincident. The correlation of HBV DNA quant. results between fluorescent QPCR assay and dot blot hybridization assay with the AlkPhos Direc probe is satisfactory.

IT **160081-62-9**, CDP-star
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(hepatitis B virus DNA AlkPhos Direc probe labeled directly by alkaline phosphatase for detecting hepatitis B virus DNA in human serum)

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 11 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:678382 HCAPLUS
DOCUMENT NUMBER: 139:192456
TITLE: Terminal-phosphate-labeled nucleotides and their uses in detecting target nucleic acids via phosphate removal during DNA polymerization and phosphatase cleavage of labeled polyphosphate byproducts
INVENTOR(S): Fuller, Carl; Kumar, Shiv; Sood, Anup; Nelson, John
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 17 pp., Cont.-in-part of U.S. Ser. No. 113,030.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003162213	A1	20030828	US 2003-358818	20030205
US 2003077610	A1	20030424	US 2002-113030	20020401
WO 2004072297	A2	20040826	WO 2004-US2785	20040130

W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG, BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR, CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES, ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN, IS, JP, JP, KE, KE, KG, KG, KP, KP, KP, KR, KR, KZ, KZ, KZ, LC, LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX, MZ, MZ, NA, NI
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:		
US 2001-315798P	P	20010829
US 2002-113030	A2	20020401
US 2003-358818	A	20030205

OTHER SOURCE(S): MARPAT 139:192456

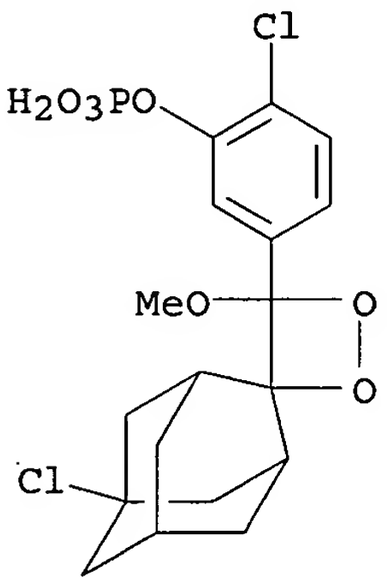
AB The present invention relates to improved methods of detecting a target nucleic acid in a sample using terminal-phosphate-labeled nucleotides as substrates for nucleic acid polymerases, followed by phosphatase cleavage of the labeled polyphosphate byproducts. The methods comprise the enzyme-catalyzed labeling reaction which produces a substrate nucleotide analog with independently detectable signal only when the substrate analog reacts. The methods provided by this invention utilize a nucleoside polyphosphate, dideoxynucleoside polyphosphate, or deoxynucleoside polyphosphate analog which has a colorimetric dye, chemiluminescent, or fluorescent moiety, a mass tag or an electrochem. tag attached to the terminal-phosphate. When a nucleic acid polymerase uses this analog as a substrate, an enzyme-activatable label would be present on the inorg. polyphosphate byproduct of phosphoryl transfer. Phosphatase cleavage of the polyphosphate product leads to a detectable change in the label attached thereon. When the polymerase assay is performed in the presence of a phosphatase, there is provided a convenient method for real-time monitoring of DNA or RNA synthesis and detection of a target nucleic acid.

IT **288576-32-9D**, derivs.
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(chemiluminescent label; synthesis of terminal-phosphate-labeled nucleotides and their uses in detecting nucleic acids via phosphate removal during nucleic acid polymerization and phosphatase cleavage of labeled polyphosphate byproducts)

RN 288576-32-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



L21 ANSWER 12 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:586339 HCAPLUS

DOCUMENT NUMBER: 139:306034

TITLE: Improved Sensitivity of Colorimetric Compared to Chemiluminescence ELISAs for Cytokine Assays

AUTHOR(S): Siddiqui, Javed; Remick, Daniel G.

CORPORATE SOURCE: Department of Pathology, University of Michigan Medical School, Ann Arbor, MI, USA

SOURCE: Journal of Immunoassay & Immunochemistry (2003), 24(3), 273-283
CODEN: JIIOAZ; ISSN: 1532-1819

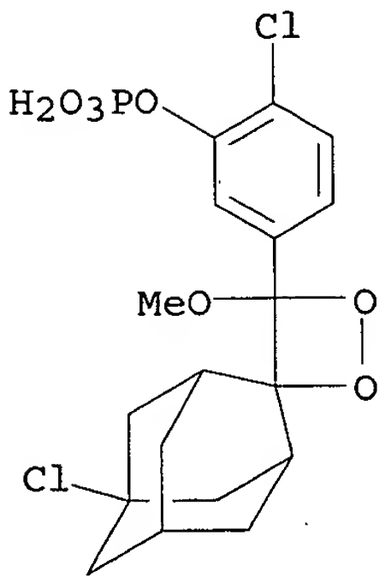
PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cytokines are often measured using ELISAs and chemiluminescence (CMIL) is reported to exhibit increased sensitivity compared to colorimetric (COL) assays. CMIL also has a wider dynamic detection range. The authors sought to directly compare ELISAs for measuring human TNF and IL-8 using CMIL or COL. CMIL substrates with glow fluorescence were obtained from 4 different com. sources while the COL substrate was TMB. ELISAs for TNF and IL-8 were run under identical conditions and the standard curve extended from 0.5 to 4000 pg/mL. The COL substrate demonstrated a sigmoid shaped curve when plotted on a log-linear scale while the CMIL continued to increase up to the highest concentration Both substrates were modeled most accurately by a 4 parameter equation with R values >0.99. The standard curves for both the IL-8 and TNF demonstrated a lower limit of detection (LLD) for the COL comparable to the CMIL detection system. To precisely define the LLD quadruplicate blanks were run and the mean plus 4 standard deviations were used. By these criteria, the COL assay routinely had a LLD of <1.5 pg/mL which was better than any of the CMIL substrates. The data demonstrate the COL assays have the same or better sensitivity than CMIL and are significantly less expensive.

IT **160081-62-9**, CDP-star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(comparison of colorimetric vs. chemiluminescent ELISAs for determination of cytokines)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:511569 HCAPLUS
DOCUMENT NUMBER: 139:85491
TITLE: Effect of deuterium substitution on chemiluminescence of 1,2-dioxetanes and their preparation from alkene intermediates
INVENTOR(S): Giri, Brij Pal; Dagli, Dinesh
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003054506	A2	20030703	WO 2002-US22828	20020717
WO 2003054506	A3	20040212		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1453822 A2 20040908 EP 2002-803264 20020717

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRIORITY APPLN. INFO.: US 2001-306041P P 20010717

WO 2002-US22828 W 20020717

OTHER SOURCE(S): MARPAT 139:85491

AB Deuterium-substituted 1,2-dioxetanes I [R1-R3 and Ar are C-containing organic groups in which at least 1 has ≥1 D or a D-atom-containing group; R2R3 form (un)substituted cyclic, polycyclic or spiro-fused ring, or R2, R3 = (un)substituted, branched C3-8 alkyl or cycloalkyl; Ar = aryl; X = O, S; Y = H, alkyl, acetate, Me3C(Me2)Si or other protecting group, or an enzyme- or antibody-cleavable group], useful in immunoassays and in DNA sequencing (no data), are claimed, as are the corresponding alkene intermediates R2R3C:C(XR1)-Ar-X-Y (same R1-R3, Ar, X, Y) and a method for generating light by decomposing I with an activating agent, preferably an enzyme from a biol. source, to give the corresponding carbonyl compds. In an example, the intensity of light emitted by deuterium-substituted dioxetane II (R = CD3, preparation given) was 1650 RLU, compared with 1050 RLU emitted by unsubstituted II (R = Me). Deuterium-based chemiluminescent 1,2-dioxetanes I are derived from the photooxidn. of alkenes which are synthesized by the coupling reaction of (a) (un)saturated cyclic, polycyclic, (un)branched alkyl, cycloalkyl and spiro-fused compds. and (b) substituted aromatic esters or ketones wherein (a) or (b) or both at least have a D atom or a D atom-containing group. These D-based 1,2-dioxetanes may also have electron donating or withdrawing groups at the four-membered peroxide ring. Thus, the added electronic charge and the D or D-containing group affects the light producing efficiency of 1,2-dioxetanes.

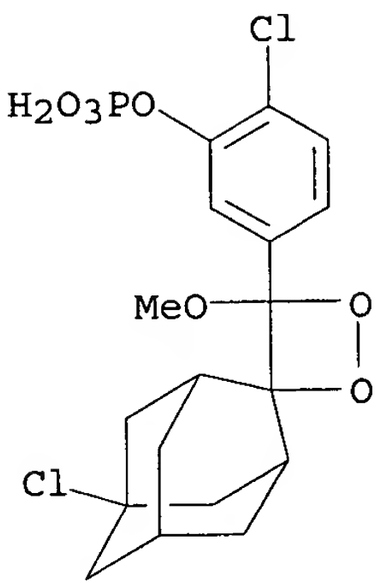
IT **160081-62-9**

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(chemiluminescence of; effect of deuterium substitution on chemiluminescence of 1,2-dioxetane derivs. upon decomposition and their preparation from alkene intermediates)

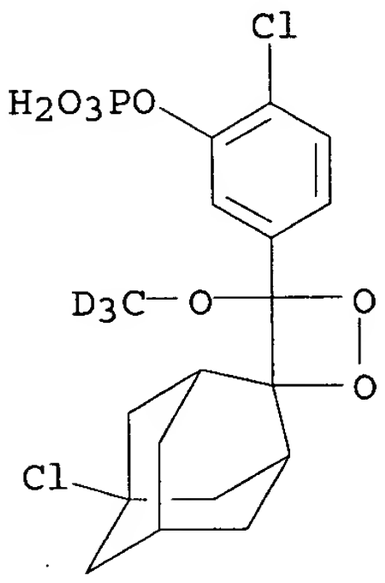
RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IT **552847-93-5P**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(chemiluminescence of; effect of deuterium substitution on chemiluminescence of 1,2-dioxetane derivs. upon decomposition and their preparation from alkene intermediates)
RN 552847-93-5 HCAPLUS
CN Phenol, 2-chloro-5-[5'-chloro-4-(methoxy-d3)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



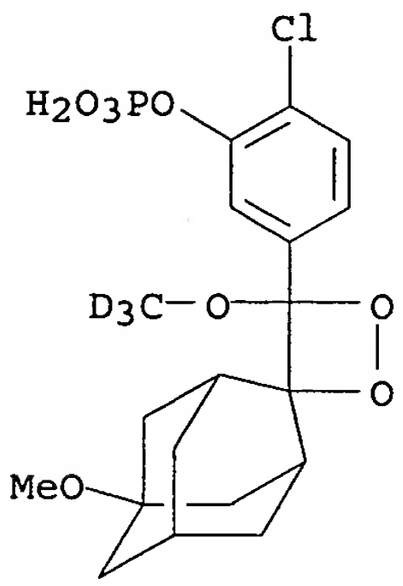
●2 Na

IT **552848-13-2P 552848-18-7P**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(chemiluminescence of; effect of deuterium substitution on chemiluminescence of 1,2-dioxetane derivs. upon decomposition and their

preparation from alkene intermediates)

RN 552848-13-2 HCAPLUS

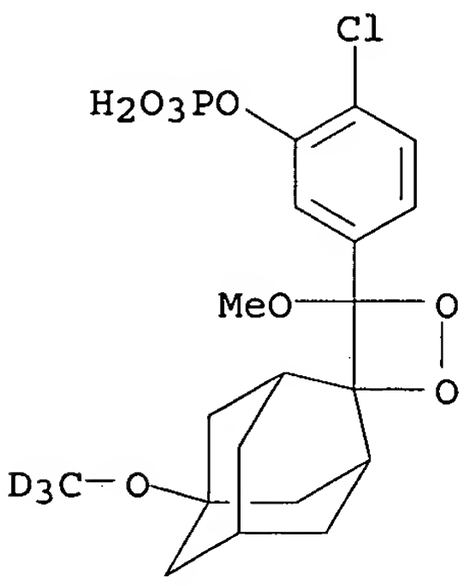
CN Phenol, 2-chloro-5-[5'-methoxy-4-(methoxy-d3)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 552848-18-7 HCAPLUS

CN Phenol, 2-chloro-5-[4-methoxy-5'-(methoxy-d3)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



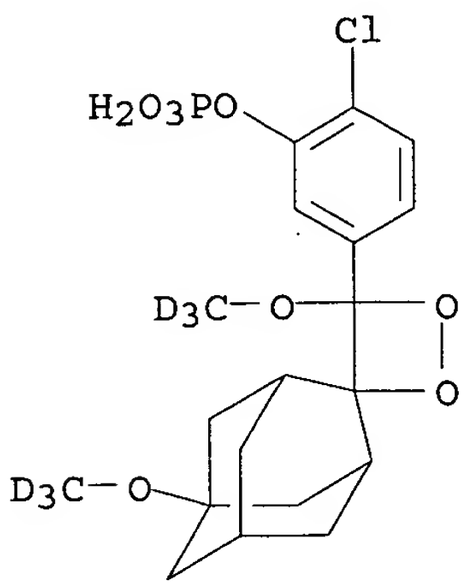
●2 Na

IT **552848-22-3P**

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(chemiluminescence; effect of deuterium substitution on chemiluminescence of 1,2-dioxetane derivs. upon decomposition and their

preparation from alkene intermediates)
RN 552848-22-3 HCAPLUS
CN Phenol, 2-chloro-5-[4,5'-di(methoxy-d3)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 14 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:202851 HCAPLUS
DOCUMENT NUMBER: 138:232942
TITLE: Terminal-phosphate-labeled nucleotide analogs as substrates for polymerase reaction in nucleic acid sequence analysis
INVENTOR(S): Nelson, John; Fuller, Carl; Sood, Anup; Kumar, Shiv
PATENT ASSIGNEE(S): Amersham Biosciences Corp, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003020984	A2	20030313	WO 2002-US27563	20020829
WO 2003020984	A3	20031211		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003077610	A1	20030424	US 2002-113030	20020401
EP 1421212	A2	20040526	EP 2002-759493	20020829

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

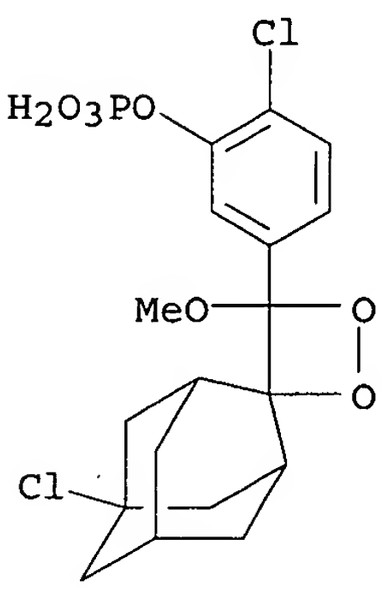
PRIORITY APPLN. INFO.: US 2001-315798P P 20010829
US 2002-113030 A 20020401
WO 2002-US27563 W 20020829

AB The present invention describes methods of detecting a nucleic acid in a sample, based on the use of terminal-phosphate-labeled nucleotides as substrates for nucleic acid polymerases. The methods provided by this invention utilize a nucleoside polyphosphate, dideoxynucleoside polyphosphate, or deoxynucleoside polyphosphate analog which has a colorimetric dye, chemiluminescent, or fluorescent moiety, a mass tag or an electrochem. tag attached to the terminal-phosphate. When a nucleic acid polymerase uses this analog as a substrate, an enzyme-activatable label would be present on the inorg. polyphosphate byproduct of phosphoryl transfer. Cleavage of the polyphosphate product of phosphoryl transfer via phosphatase leads to a detectable change in the label attached thereon. When the polymerase assay is performed in the presence of a phosphatase, there is provided a convenient method for real-time monitoring of DNA or RNA synthesis and detection of a target nucleic acid.

IT **288576-32-9**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (chromogenic moiety, phosphorylated label; terminal-phosphate-labeled nucleotide analogs as substrates for polymerase reaction in nucleic acid sequence anal.)

RN 288576-32-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



L21 ANSWER 15 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:202652 HCAPLUS
DOCUMENT NUMBER: 138:238391
TITLE: Preparation of fluorescent dye-labeled nucleoside polyphosphates as substrates for nucleic acid polymerases
INVENTOR(S): Kumar, Shiv; Sood, Anup
PATENT ASSIGNEE(S): Amersham Biosciences Corp., USA
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003020734	A2	20030313	WO 2002-US27565	20020829
WO 2003020734	A3	20030612		

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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003124576	A1	20030703	US 2002-230576	20020829
EP 1421213	A2	20040526	EP 2002-759495	20020829

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

PRIORITY APPLN. INFO.:	US 2001-315798P	P 20010829
	WO 2002-US27565	W 20020829

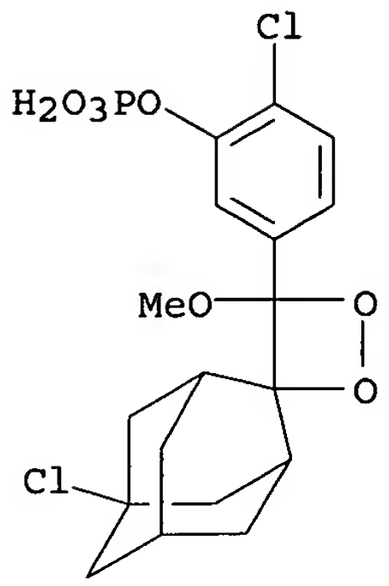
OTHER SOURCE(S): MARPAT 138:238391

AB The present invention describes new compns. of matter in the form of labeled nucleoside polyphosphates with four or more phosphates. In addition compns. of nucleoside polyphosphates with four or more phosphates that are substrates for nucleic acid polymerases with enhanced substrate properties and methods of using these nucleoside polyphosphates for nucleic acid detection, characterization and quantification are described. The compns. provided by this invention include nucleoside polyphosphate, dideoxynucleoside polyphosphate, or deoxynucleoside polyphosphate analogs which have colorimetric, chemiluminescent, or fluorescent moieties, mass tags or an electrochem. tags attached to the terminal-phosphate. When a nucleic acid polymerase uses this analog as a substrate, an enzyme-activatable label would be present on the inorg. polyphosphate byproduct of phosphoryl transfer. Cleavage of the polyphosphate product of phosphoryl transfer via phosphatase leads to a detectable change in the label attached thereon. When the polymerase assay is performed in the presence of a phosphatase, there is provided a convenient method for real-time monitoring of DNA or RNA synthesis and detection of a target nucleic acid.

IT **160081-62-9**, CDP star
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(preparation of fluorescent dye-labeled nucleoside polyphosphates as substrates for nucleic acid polymerases)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 16 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:154695 HCAPLUS
DOCUMENT NUMBER: 138:201338
TITLE: Immunochemical method and test kit for determining analytes
INVENTOR(S): Pils, Walter; Pils, Dietmar
PATENT ASSIGNEE(S): Austria
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003016903	A2	20030227	WO 2002-AT246	20020816
WO 2003016903	A3	20030417		
WO 2003016903	C1	20031127		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: AT 2001-UT652 U 20010820
AT 2002-963 A 20020627

AB The invention relates to a method for determining at least one analyte from a sample by an immunochem. reaction with a device consisting of several zones. The analyte is applied on a starting zone in a reagent, especially an organic reagent, and flows into at least one other zone with one or several fields under the effect of capillary forces, whereby at least one specific binding partner, to which at least one substance is conjugated, is temporarily immobilized in a field. Drugs, hormones, substances of abuse,

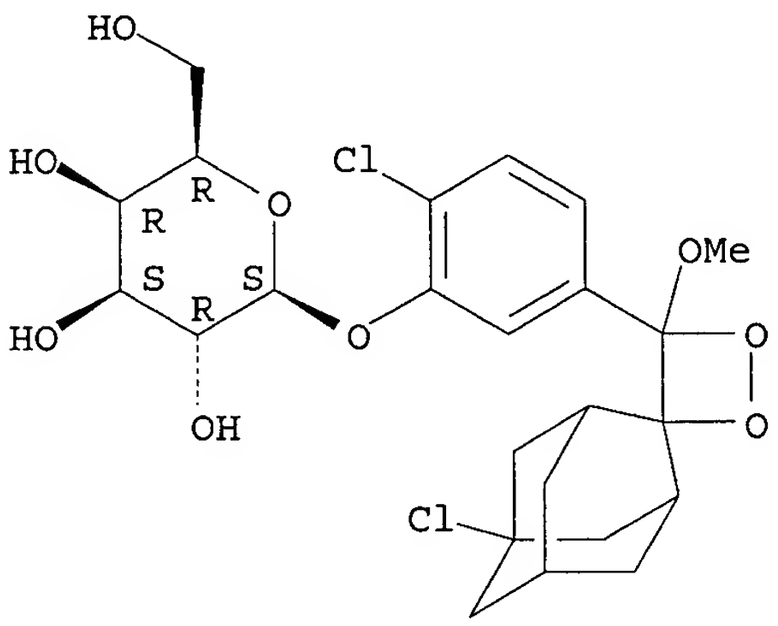
peptides, allergens, antibodies, antigens, neurotransmitters, carbohydrates, lipids etc. are determined from body fluids and other matrixes.

IT **201038-56-4**, Galacton-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(immunochem. method and test kit for determining analytes)

RN 201038-56-4 HCAPLUS

CN β-D-Galactopyranoside, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L21 ANSWER 17 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:108789 HCAPLUS

DOCUMENT NUMBER: 139:267817

TITLE: Stabilized chemiluminescent 1,2-dioxetanes

AUTHOR(S): Giri, B. P.; Dagli, D. J.; Toben, N. E.; Giri, K. W.; Przybysz, A. J.; Toben, V. P.; Singh, P.; Toben, H. R.

CORPORATE SOURCE: Michigan Diagnostic, L.L.C., Troy, MI, 48083, USA

SOURCE: Bioluminescence & Chemiluminescence: Progress & Current Applications, [Proceedings of the Symposium on Bioluminescence and Chemiluminescence], 12th, Cambridge, United Kingdom, Apr. 5-9, 2002 (2002), 145-148. Editor(s): Stanley, Philip E.; Kricka, Larry J. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69DPGZ; ISBN: 981-238-156-2

DOCUMENT TYPE: Conference

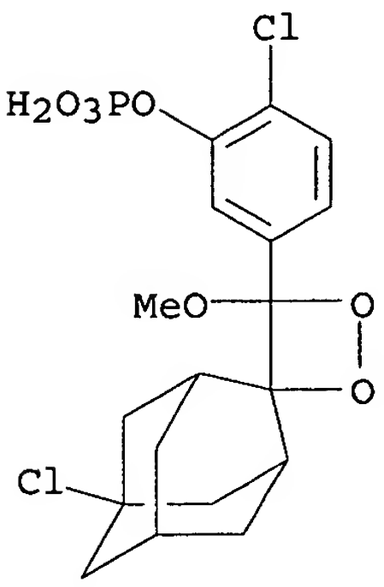
LANGUAGE: English

AB A generation of 1,2-dioxetanes with π-electrons in a spiro-fused ring attached to the four-membered peroxide ring which can produce light in aqueous buffer was reported. All the stabilized 1,2-dioxetanes are stable at least for 12 mo in Tris-buffer and several years in solid form as a disodium salts. Upon enzymic dephosphorylation, using for example alkaline phosphatase in Tris-buffer at pH 9.0 to 10.0, these 1,2-dioxetanes gave an unstable phenolate-type intermediate which on electron transfer to the dioxetane ring decompose and emit light. The photochem. photocyclization of 1,4- and 1,3-bis(2,4,6-triisopropylbenzoyl) benzene suggests that the rate of bond cleavage of the cyclobutenol ring is much faster than the rate of intramol. hydrogen abstraction when benzoyl substitution is at the para position of the Ph ring.

IT **160081-62-9 600724-20-7**

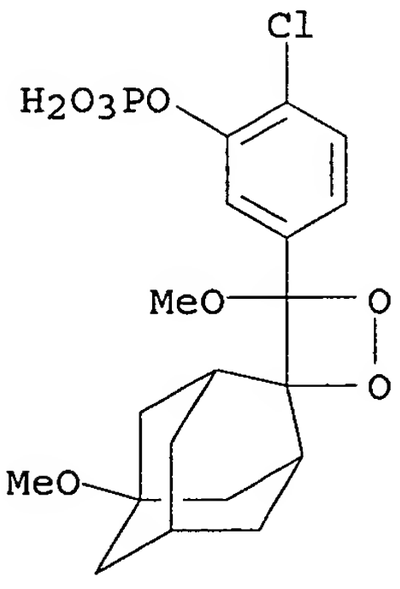
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(chemiluminescence efficiency and mechanism of decomposition of dioxetanes with π-electrons in spiro-fused ring attached to four-membered peroxide ring)

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 600724-20-7 HCAPLUS
CN Phenol, 2-chloro-5-(4,5'-dimethoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 18 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:716965 HCAPLUS
DOCUMENT NUMBER: 137:244282
TITLE: Quant-screen chemiluminescent assays for cells
INVENTOR(S): Olesen, Corinne E. M.; Yan, Yu-xin; Bronstein, Irena Y.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 29 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

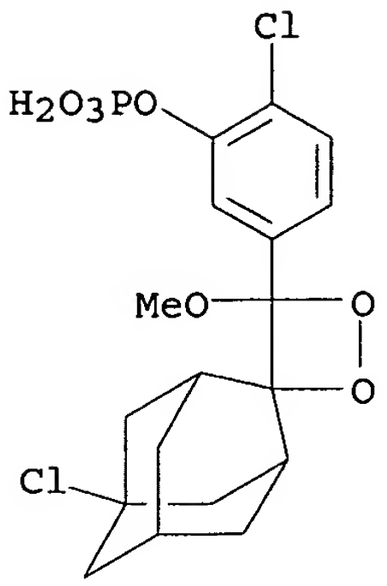
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002132364	A1	20020919	US 2001-756209	20010109
PRIORITY APPLN. INFO.:			US 2001-756209	20010109

OTHER SOURCE(S): MARPAT 137:244282

AB Chemiluminescent endogenous enzyme assays are disclosed which provide for the rapid, simple, and sensitive quantitation of cells directly in microwell cultures by the measurement of endogenous enzyme activity. These endogenous enzyme assays provide homogeneous chemiluminescent formats for measuring cell proliferation, growth inhibition, cell adhesion, cell migration, and cell number quantitation and normalization. Methods and kits employing such assays are also provided. A Quant-Screen mammalian reaction buffer containing 150 mM sodium phosphate, pH 5.5, 30 mM EDTA, 0.3 % Triton X-1000, 2 % sodium dodecylbenzenesulfonate, 0.6 mM Glucon, 1 M diethanolamine, pH 9.5, as accelerator, and 30 % Sapphire-II was used in growth stimulation and growth inhibition assays with 3T3 cells.

IT **160081-62-9**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(quant-screen chemiluminescent assays for cells by measuring endogenous enzymes)

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 19 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:555736 HCAPLUS
DOCUMENT NUMBER: 137:106074
TITLE: Dendritic chemiluminescent substrates
INVENTOR(S): Sparks, Alison L.
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 116 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002057745	A2	20020725	WO 2002-US22	20020108
WO 2002057745	A3	20030313		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002155523	A1	20021024	US 2002-38626	20020108
EP 1358344	A2	20031105	EP 2002-713345	20020108
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004524521	T2	20040812	JP 2002-557779	20020108
PRIORITY APPLN. INFO.:			US 2001-259870P P	20010108
			US 2001-286383P P	20010426
			WO 2002-US22 W	20020108

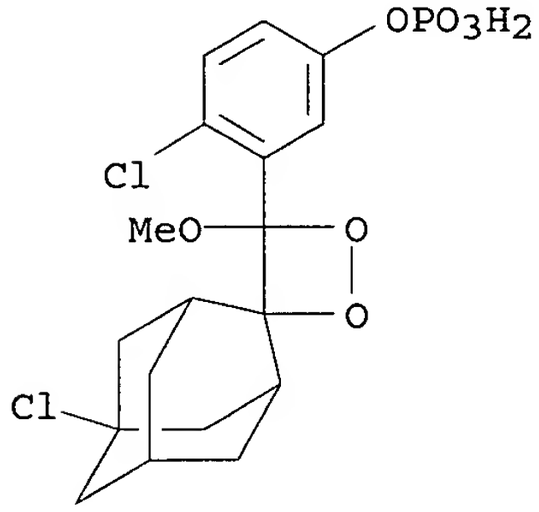
OTHER SOURCE(S): MARPAT 137:106074
AB The invention concerns chemiluminescent substrate delivery systems comprising a conjugate a dendrimer and at least one chemiluminescent substrate are provided. The substrate delivery systems can also include a

chemiluminescence enhancer. The dendrimer/chemiluminescent substrate conjugates can be used in kits including an enzyme capable of activating the chemiluminescent substrate to produce a per-oxygenated intermediate that decomps. to produce light. The dendrimer/chemiluminescent substrate conjugates can be used in assays to detect the presence of an analyte (e.g., an enzyme, an antibody, an antigen or a nucleic acid) in a sample.

IT **443643-96-7**
RL: PRP (Properties)
(dendritic chemiluminescent substrates)

RN 443643-96-7 HCAPLUS

CN Phenol, 4-chloro-3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



L21 ANSWER 20 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	2002:90340 HCAPLUS
DOCUMENT NUMBER:	136:131202
TITLE:	Spatially resolved enzyme-linked assay and system
INVENTOR(S):	Glensbjerg, Martin
PATENT ASSIGNEE(S):	Chemometec A/S, Den.
SOURCE:	PCT Int. Appl., 59 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002008754	A1	20020131	WO 2001-DK490	20010712
WO 2002008754	C2	20030912		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,

IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

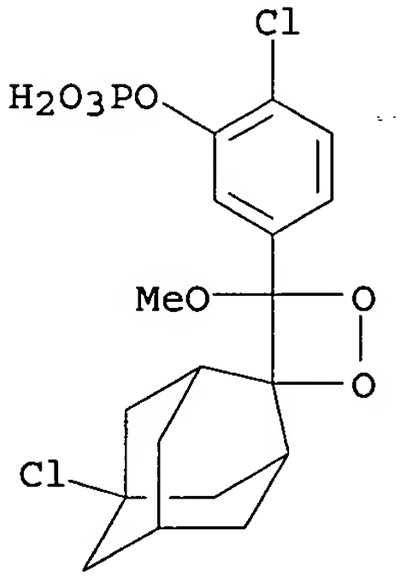
EP 1360488	A1	20031112	EP 2001-960173	20010712
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004505245	T2	20040219	JP 2002-514397	20010712
US 2004038241	A1	20040226	US 2003-333734	20030804
PRIORITY APPLN. INFO.:			DK 2000-1137 A	20000726
			DK 2000-1446 A	20000929
			DK 2001-653 A	20010425
			WO 2001-DK490 W	20010712

AB The present invention relates to a method of assessing at least one quality parameter and/or at least one quantity parameter of at lest one analyte wherein said at least one analyte is connected to a catalyst capable of catalyzing a substrate into a product, whereby the analyte is assessed through detection of product produced around the analyte. More particularly, the present invention relates to a method of assessing at least one quality parameter or at least one quantity parameter of at least one species of analytes in a sample comprising the steps of establishing a sample domain having at least one wall, arranging in the sample domain catalyst-analyte complexes between the at lest one species of analytes and at least one catalyst in a manner allowing the analytes to move relative to the wall(s) of the sample domain, arranging a substrate in the sample domain, said substrate being capable of being converted into a product through catalyzation by said catalyst, contacting the substrate with the catalyst-analyte complexes of individual analytes allowing a detectable amount of product to be produced, recording an image of the product related to individual analytes in the sample domain, correlating the image to the at least one quality parameter or the at least one quantity parameter of the at least one species of analytes. A system for the assay is also described.

IT **160081-62-9**, CDP-Star **181285-38-1**, Galacton Plus
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(as substrate; spatially resolved enzyme-linked assay)

RN 160081-62-9 HCAPLUS

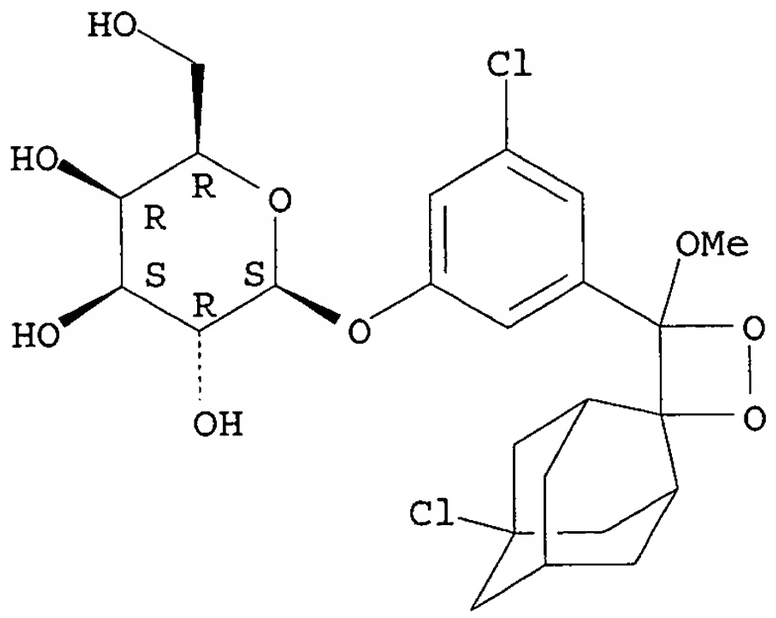
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 181285-38-1 HCAPLUS
CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L21 ANSWER 21 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:874173 HCAPLUS
DOCUMENT NUMBER: 136:2265
TITLE: Effect of organic solvents on the enzymic activity of lipase
INVENTOR(S): Kitamura, Yoshiaki; Tsuzuki, Wakako
PATENT ASSIGNEE(S): Shokuhin Sogo Kenkyusho, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001333789	A2	20011204	JP 2000-152569	20000524

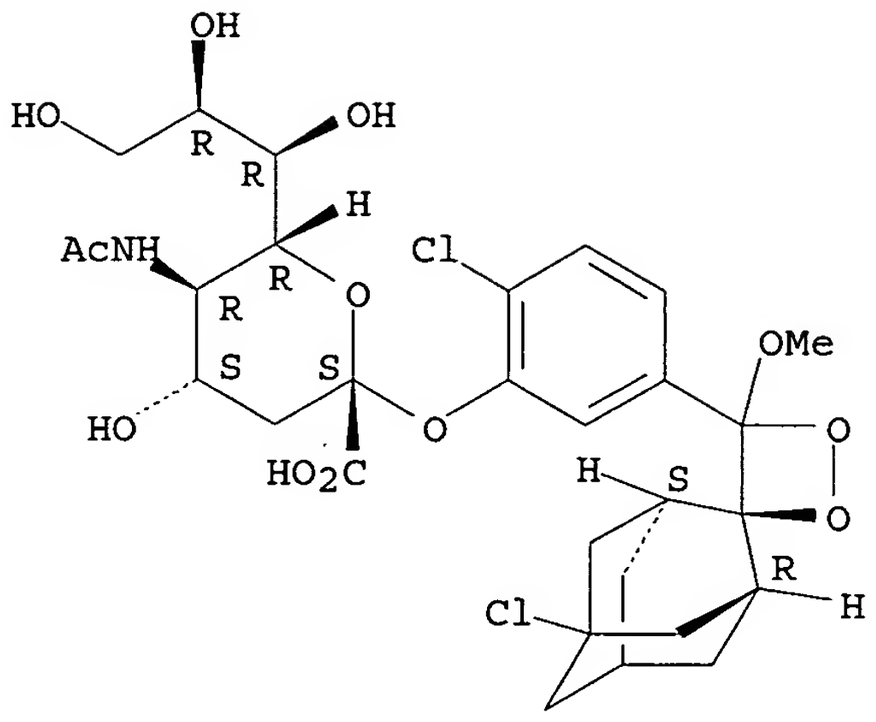
PRIORITY APPLN. INFO.: JP 2000-152569 20000524

AB The enzymic activity of lipase to the substrate, especially the hydrophobicity of the substrate, is affected by the addition of organic solvents DMF, dimethylsulfoxide, 1,4-dioxane, and/or dimethoxyethane. The enzymic activity is enhanced with substrate having higher hydrophobicity, and is decreased with substrate having lower hydrophobicity. The substrate of lipase is selected from fluorescent substance, lipid, and/or fatty acid ester. Hydrolysis of 4-methylumbelliferyl oleate with lipase in the presence of the organic solvents was shown.

IT **287972-45-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(effect of organic solvents on enzymic activity of lipase)

RN 287972-45-6 HCAPLUS
CN α-Neuraminic acid, N-acetyl-2-O-[2-chloro-5-[(1'R,3'S)-5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]phenyl]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



L21 ANSWER 22 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:479798 HCAPLUS
DOCUMENT NUMBER: 135:76861
TITLE: Polysaccharides for use as stabilizers for 1,2-dioxetanes
INVENTOR(S): Abe, Naoto; Mitoma, Shigetami
PATENT ASSIGNEE(S): Tosoh Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001181291	A2	20010703	JP 1999-366359	19991224

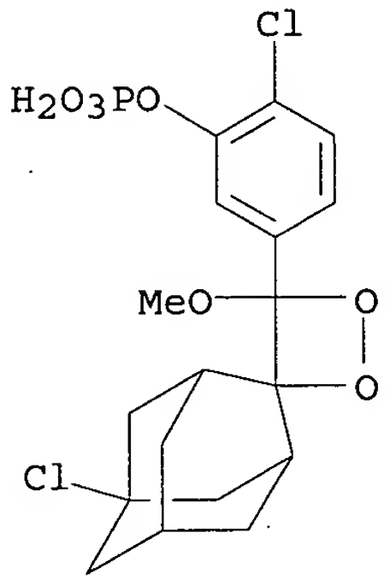
PRIORITY APPLN. INFO.: JP 1999-366359 19991224
OTHER SOURCE(S): MARPAT 135:76861

AB Stabilizers for 1,2-dioxetanes (e.g. I; R1, R3 = H, halo; R2 = lower alkyl; Ar = benzenetriyl, naphthalenetriyl; R4 = OPO32-.2M+, galactosyl; wherein M = Na, K, NH4) comprises polysaccharides, in particular ≥1 of dextran, pullulan, and ficoll. These polysaccharides prevent decomposition of 1,2-dioxetanes in an aqueous solution and are also highly effective excipients for formulation. 1,2-Dioxetanes I are excellent chemiluminescent substrates for alkali phosphatase in chemiluminescent enzyme immunoassay (CLEIA). A solution of CDP-Star (Tropix, Inc.; REG 221276-63-7) in 0.1 M ethanolamine buffer (pH 9.5) containing 9% pullulan was stored at 40° for 4 days and hydrolyzed by alkali phosphatase. The luminescence decreased to 81% of that observed on the sample prior to the storage vs. 0% for sucrose, lactose, and sorbitol.

IT **160081-62-9**, CDP-Star
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(polysaccharides for use as stabilizers for 1,2-dioxetanes in chemiluminescent enzyme immunoassay)

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-

tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 23 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:396526 HCAPLUS
DOCUMENT NUMBER: 135:2544
TITLE: Gel tube method with enzyme substrates for the identification of Pneumococci
INVENTOR(S): Contant, Genevieve; Beaupere, Francoise
PATENT ASSIGNEE(S): Stago International, Fr.
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1103621	A1	20010530	EP 2000-403276	20001123
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
FR 2801610	A1	20010601	FR 1999-14847	19991125
PRIORITY APPLN. INFO.:			FR 1999-14847 A	19991125

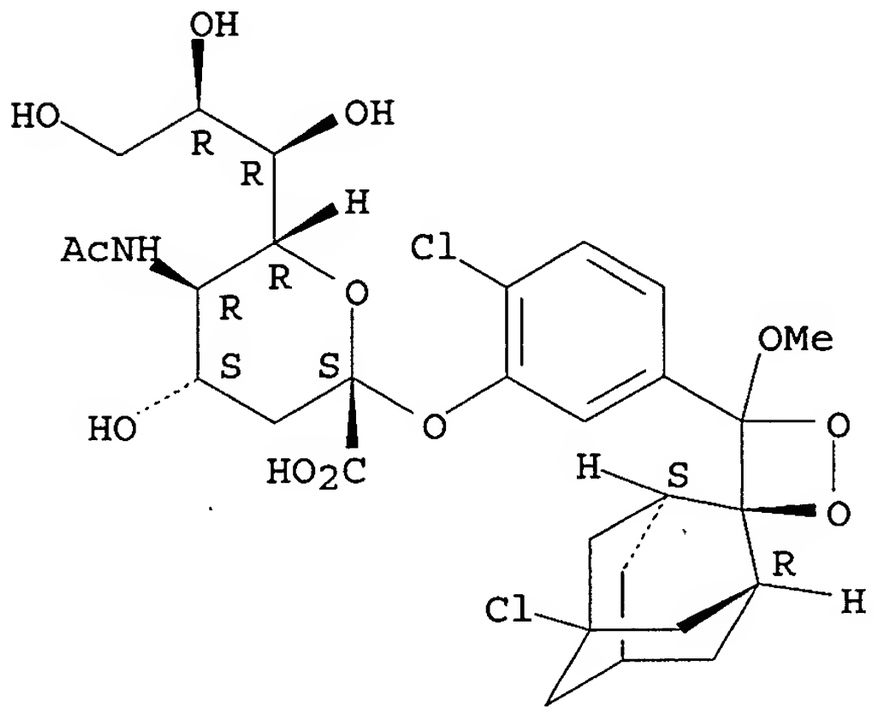
AB The invention concerns the identification of Streptococcus pneumoniae from biol. samples using a gel that contains the neuraminidase substrate 4-methylumbelliferyl-α-D-N-acetylneuraminic acid (MUN) and the phosphatase substrate p-nitrophenyl phosphate (PNP); Streptococcus pneumoniae produces only neuraminidase but no phosphatase, thus the blue fluorescent MUN is detected; other Streptococci produce either both enzymes or only phosphatase, coloring the gel either yellow or green. Biol. samples are blood, bronchoalveolar lavage, or hemoculture liquid

IT **287972-45-6**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(gel tube method with enzyme substrates for identification of Pneumococci)

RN 287972-45-6 HCAPLUS

CN α-Neuraminic acid, N-acetyl-2-O-[2-chloro-5-[(1'R,3'S)-5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 24 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:305122 HCAPLUS
DOCUMENT NUMBER: 135:58064
TITLE: The test for mad cow disease
AUTHOR(S): Weissmahr, Joseph; Guenzi, Silvia
CORPORATE SOURCE: Milan, Italy
SOURCE: Laboratorio 2000 (2001), 15(1), 64-68
CODEN: LABOE4; ISSN: 1120-8376
PUBLISHER: Morgan Edizioni Tecniche
DOCUMENT TYPE: Journal
LANGUAGE: Italian

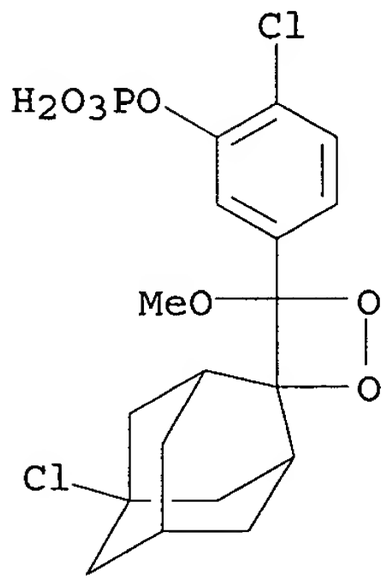
AB In recent years, a new procedure has been developed for revealing the presence of prions of bovine spongiform encephalopathy in brain tissue of cattle (and sheep) immediately after slaughter, capable of providing rapid response and therefore of balancing the demands of disease control with the need to minimize impact on the com. "pipeline". Among the laboratory tests "validated" by the European Union for this task, the one with greatest use in numerous countries consists of the so-called Prionics Western Blotting procedure. This test, confirmed by various independent studies to be sensitive, specific, and robust, can be followed according to a standardized method which assures the quality of the results in environments having the specific equipment and adequate stds. in force. Brain tissue is treated with proteases (e.g., Proteinase K), homogenized, and submitted to gel electrophoresis (200 V, 30-45 min); the proteins are transferred to a PVDF membrane supporting multiple gels and then colored; and the PrP 27-30 mol. attached to the membrane surface is revealed immunol. through the use of 2 antibodies (e.g. 6H4, Anticorpo), a chemiluminescence pad (CDP Star), and other reagents. The Prionics Check Test kit contains the necessary reagents for the key phases of the procedure (homogenization, digestion, 1st antibody, 2nd antibody, chemiluminescence, pos. control). The entire procedure, from sample preparation to final results, is approx. 7 h; multiple samples can be run

simultaneously.

IT **160081-62-9**, CDP Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(prion Western Blotting test for PrP 27-30 prion proteins associated with mad cow disease)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 25 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:286102 HCAPLUS
DOCUMENT NUMBER: 135:57643
TITLE: Enhanced detection of β-galactosidase reporter activation is achieved by a reduction of hemoglobin content in tissue lysates
AUTHOR(S): Nazarenko, Daniel A.; Dertinger, Stephen D.; Gasiewicz, Thomas A.
CORPORATE SOURCE: University of Rochester School of Medicine, Rochester, NY, 14642, USA
SOURCE: BioTechniques (2001), 30(4), 776-777,780-781
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB β-Galactosidase (β-gal), the product of the E. coli LacZ gene, has been used extensively as a reporter in numerous systems. Until recently, the most commonly used method of detecting β-gal reporter enzymic activity was a colorimetric assay based on the cleavage of the β-gal substrate 5-bromo-4-chloro-3-indolyl β-D-galactopyranoside (X-gal) to form a blue precipitate However, when increased sensitivity is needed, many investigators now turn to alternate substrates that produce fluorescent or luminescent products upon cleavage by β-gal. These products are much more easily quantified than X-gal. The luminescent and fluorometric assays work very well in cultured cells but are often less

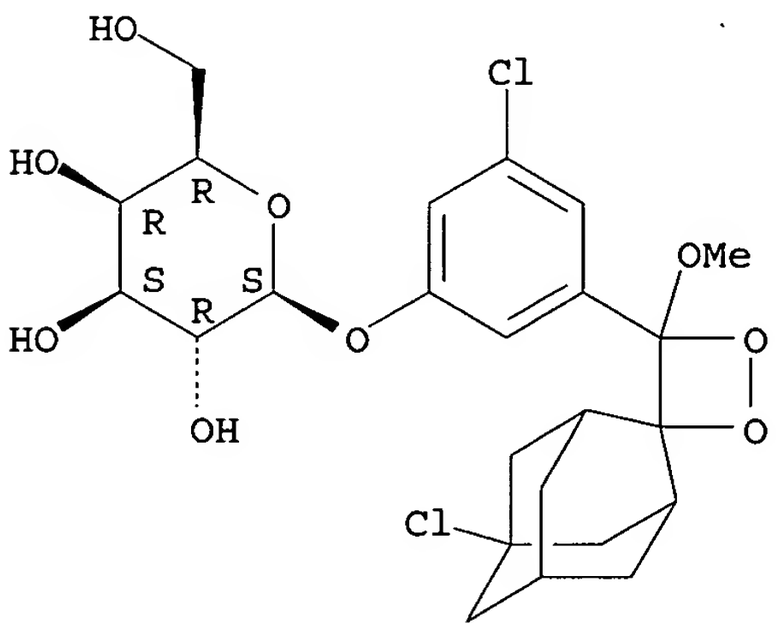
sensitive in whole tissue lysates. In this study, the authors have evaluated the sensitivity of a fluorescent and a luminescent substrate in whole tissue lysates cleared of red blood cells or washed with PBS only. The authors have found that both assays show increased low-end sensitivity in tissues with reduced levels of Hb. Hb is apparently able to quench luminescent and, to a lesser degree, fluorescent reporter light emission. Therefore, steps should be taken to reduce Hb levels either by lysis, perfusion, or both to enhance the sensitivity of these assays.

IT **181285-38-1**, Galacton Plus
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(luminescent substrate; Hb interference in β-galactosidase reporter activation detection by luminescent and fluorometric assays)

RN 181285-38-1 HCAPLUS

CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

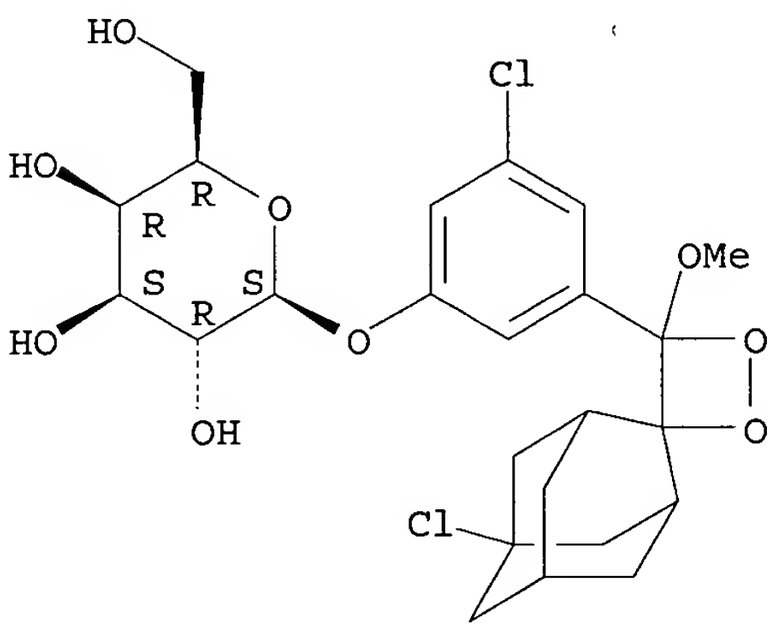
L21 ANSWER 26 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:860334 HCAPLUS
DOCUMENT NUMBER: 134:277202
TITLE: Rapid detection of fluorescent and chemiluminescent total coliforms and Escherichia coli on membrane filters
AUTHOR(S): Van Poucke, S. O.; Nelis, H. J.
CORPORATE SOURCE: Laboratory for Pharmaceutical Microbiology, University of Ghent, Ghent, B-9000, Belg.
SOURCE: Journal of Microbiological Methods (2000), 42(3), 233-244
CODEN: JMIMDQ; ISSN: 0167-7012
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The detection of fluorescent colonies of Escherichia coli/total coliforms (TC) on a membrane filter is currently carried out using 4-methylumbelliferyl-β-D-glycosides as enzyme substrates and a UV-lamp for visualization. The most rapid procedures based on this approach for the demonstration of these indicator bacteria in water take 6-7.5 h to complete. As part of efforts to further reduce the detection

time, an improved two-step procedure for the fluorescence or chemiluminescence labeling of microcolonies of E. coli/TC on a membrane filter has been developed. Essential features of this approach include a separation of the bacterial propagation and target enzyme induction from the actual enzymic labeling, the use of improved fluorogenic, i.e., 4-trifluoromethylumbelliferyl-β-D-glycosides and fluorescein-di-β-D-glycosides, or chemiluminogenic (i.e., phenylglucuronic- or galactose-substituted adamantyl 1,2-dioxetanes) substrates for β-glucuronidase/β-galactosidase, of enzyme inducers, of special membrane filters and of polymyxin B to promote the cellular uptake of the substrate. This labeling procedure has been applied in conjunction with different detection devices including a UV-lamp, CCD-cameras, x-ray film and the ChemScan RDI. Using the former three, microcolonies of pure cultures could be detected within 5.5-6.5 h, but waterborne E. coli/TC may fail to form microcolonies in this short time period, thus yielding poor sensitivity and a high false-neg. rate. In contrast, a quant. enumeration was feasible in less than 4 h with the ChemScan RDI, owing to its ability to detect both microcolonies and non-dividing single cells.

IT **181285-38-1**, Galacton-plus
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(Escherichia coli detection by fluorescence and chemiluminescence detection of enzymes on membrane filters)
RN 181285-38-1 HCAPLUS
CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 27 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:646126 HCAPLUS
DOCUMENT NUMBER: 133:233555
TITLE: Biological substance-containing fiber carriers used for preparing microarray or chip
INVENTOR(S): Akita, Takashi; Ito, Chiho; Ishimaru, Teruta; Miyauchi, Haruko; Murase, Kei; Takahashi, Atsushi; Umi, Toshinori; Maehara, Osamu; Ikeda, Tadanobu; Oogami, Nobuko; Makino, Takayuki; Yu, Fujio; Watanabe, Fumiaki; Uragaki, Toshitaka; Fujii, Wataru; Morishita, Takeharu

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
SOURCE: PCT Int. Appl., 129 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000053736	A1	20000914	WO 2000-JP1353	20000306
W: AE, AU, BA, BG, BR, CA, CN, CZ, HU, ID, IL, IN, KR, MX, NO, NZ, PL, RO, RU, SG, SK, TR, US, YU, ZA				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 2000245460	A2	20000912	JP 1999-59361	19990305
JP 2000270877	A2	20001003	JP 1999-83964	19990326
JP 2000270878	A2	20001003	JP 1999-84100	19990326
JP 2000270879	A2	20001003	JP 1999-84101	19990326
JP 2000279177	A2	20001010	JP 1999-93043	19990331
JP 2001037477	A2	20010213	JP 1999-215014	19990729
JP 2001122892	A2	20010508	JP 1999-298613	19991020
JP 2001136972	A2	20010522	JP 1999-324194	19991115
JP 2000342298	A2	20001212	JP 1999-346521	19991206
JP 2001161361	A2	20010619	JP 1999-346288	19991206
JP 2001239594	A2	20010904	JP 2000-55658	20000301
JP 3515470	B2	20040405		
JP 2001248072	A2	20010914	JP 2000-57075	20000302
CA 2365780	AA	20000914	CA 2000-2365780	20000306
EP 1158047	A1	20011128	EP 2000-906733	20000306
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, RO				
JP 2001133453	A2	20010518	JP 2000-250943	20000822
JP 2001228148	A2	20010824	JP 2000-371713	20001206
NO 2001004319	A	20011101	NO 2001-4319	20010905
JP 2004066829	A2	20040304	JP 2003-291712	20030811

PRIORITY APPLN. INFO.:

JP 1999-59361	A	19990305
JP 1999-83964	A	19990326
JP 1999-84100	A	19990326
JP 1999-84101	A	19990326
JP 1999-93043	A	19990331
JP 1999-93044	A	19990331
JP 1999-215014	A	19990729
JP 1999-240041	A	19990826
JP 1999-298613	A	19991020
JP 1999-324194	A	19991115
JP 1999-346288	A	19991206
JP 1999-346309	A	19991206
JP 1999-346521	A	19991206
JP 2000-55658	A	20000301
JP 2000-57075	A	20000302
WO 2000-JP1353	W	20000306

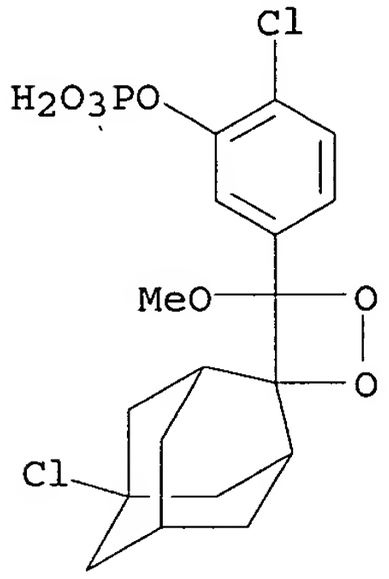
AB Fibers (e.g., hollow fiber, porous fiber, porous hollow fiber) carrying immobilized biol. substance (e.g., nucleic acid, amino acid, sugar, lipid), fibers carrying biol. substance-immobilized gel, and fiber alignments containing bundles of these fibers are described. Slices of these fiber alignments are provided as microarray or chip (e.g., DNA microarray or DNA chip) for detecting target biol. substances by hybridization. By this method, the immobilized nucleic acid two-dimensional alignment body

with a high quantity of immobilized nucleic acid and a high d. alignment of nucleic acid mol. species per unit area is manufactured in a large quantity with a low manufacturing cost. Diagrams describing the fiber carriers and fiber alignments are given.

IT **160081-62-9**, CDP Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(biol. substance-containing fiber carriers used for preparing microarray or chip)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 28 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:592856 HCAPLUS
DOCUMENT NUMBER: 133:173995
TITLE: Determination of nuclease activity and use in assays
INVENTOR(S): Harbron, Stuart
PATENT ASSIGNEE(S): UK
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000049172	A1	20000824	WO 2000-GB606	20000221

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM,

AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

GB 2347213	A1	20000830	GB 1999-3851	19990220
EP 1155143	A1	20011121	EP 2000-903907	20000221
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

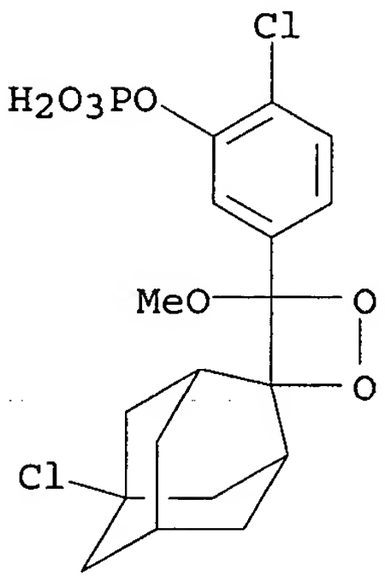
PRIORITY APPLN. INFO.:
GB 1999-3851 A 19990220
WO 2000-GB606 W 20000221

AB A method for detecting a nuclease enzyme is disclosed comprising the steps: (a) contacting said enzyme with a compound of formula RpX, wherein R is a 3' nucleosidyl derivative, p is a phospho radical, and X is an esterifiable moiety or, only if R is a 3' nicotinamide derivative, X is an esterifiable moiety or H, whereby ROH and pX are produced, and (b) detecting said pX moiety or, only if R is a 3' nicotinamide derivative, detecting the pX moiety or the ROH moiety. In preferred embodiments the invention provides a method for detecting a nuclease enzyme that is free in solution, immobilized on a surface, or attached to a member of a specific binding pair. The method of the invention may thus be applied as a detection step in nucleic acid hybridization assays, enzyme immunoassays and ligand:receptor binding assays. The invention provides a variety of methods for detecting the detectable moieties produced. These include fluorometric, colorimetric, and luminometric endpoints. Enzyme cycling and apoenzyme reactivation assays are also provided.

IT **288576-32-9D**, derivs.
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(determination of nuclease activity and use in assays)

RN 288576-32-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 29 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:510885 HCAPLUS
DOCUMENT NUMBER: 134:232359
TITLE: Quantitative polymerase chain reaction and solid-phase capture nucleic acid detection
AUTHOR(S): Martin, Chris S.; Voyta, John C.; Bronstein, Irena

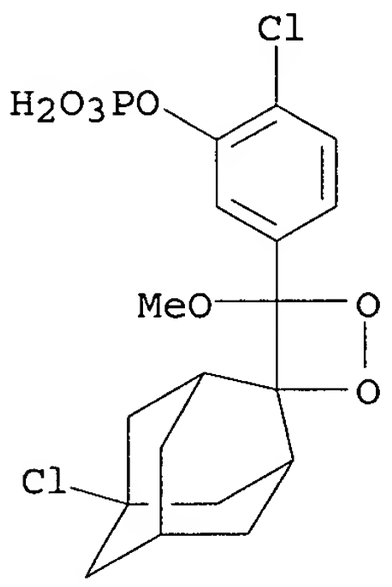
CORPORATE SOURCE: Tropix, Inc., Bedford, MA, 01730, USA
SOURCE: Methods in Enzymology (2000), 305(Bioluminescence and Chemiluminescence, Pt. C), 466-476
CODEN: MENZAU; ISSN: 0076-6879
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Quant. PCR is the process of determining the number of target DNA mols. by correlation to the quantity of amplified product. Methods for solid-phase capture of PCR products and chemiluminescent detection are described, which can be performed in tubes or microplates. The PCR product is quantitated by measuring the amount of product bound to a solid support. The assays utilize CSPD or CDP-Star, chemiluminescent 1,2-dioxetane substrates for alkaline phospatase. (c) 2000 Academic Press.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(CDP-Star; quant. PCR and solid-phase capture nucleic acid detection)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 30 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:421299 HCAPLUS
DOCUMENT NUMBER: 133:55306
TITLE: Multiple enzyme assays using luminescent dioxetane substrates
INVENTOR(S): Bronstein, Irena; Martin, Christopher; Olesen, Corinne; Voyta, John; Yan, Yu-xin
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2000036098	A1	20000622	WO 1999-US29550		19991214
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM					
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
CA 2353872	AA	20000622	CA 1999-2353872		19991214
EP 1151090	A1	20011107	EP 1999-965243		19991214
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
US 6586196	B1	20030701	US 1999-459982		19991214
JP 2003520017	T2	20030702	JP 2000-588347		19991214
PRIORITY APPLN. INFO.:			US 1998-112359P	P	19981215
			WO 1999-US29550	W	19991214

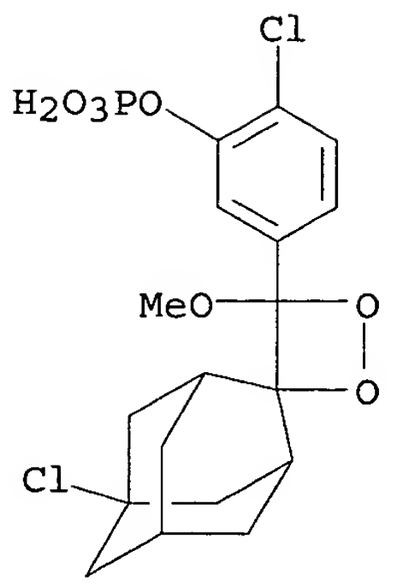
OTHER SOURCE(S): MARPAT 133:55306

AB The present invention discloses multiple enzyme assays which measure the activity of at least one endogenous enzyme in a single aliquot and a method of measuring the activity of multiple enzymes in an aliquot of a sample extract, wherein at least one of the enzymes is an endogenous enzyme. In one embodiment of the invention the activity of a first enzyme is quantified by measuring the light signal produced by degradation of a first enzyme substrate by the first enzyme and the activity of the second enzyme is quantified by measuring the light signal produced by the degradation of a second substrate. Luminescent dioxetane substrates I (where T = polycyloalkyl bonded to dioxetane by spiro linkage, X = hydrogen, aryl/heteroaryl, or alkyl/heteroalkyl, or enzyme-cleavable group Y = fluorescent chromophore, Z = hydrogen, hydroxyl or enzyme-cleavable group) for the multiple enzyme assays are disclosed. In the method of the present invention, both quantifications are performed on the same aliquot of sample extract Different embodiments of the present invention provide for the detection of more than one endogenous enzyme and for the detection of at least one reporter enzyme and at least one endogenous enzyme. The present invention also discloses kits for detecting the activity of multiple enzymes.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(multiple enzyme assays using luminescent dioxetane substrates)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 31 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:356695 HCAPLUS
DOCUMENT NUMBER: 133:3722
TITLE: ELISA test kit for determination of human IgE
INVENTOR(S): Sato, Yumi; Wada, Shigehito; Tanno, Kazunobu
PATENT ASSIGNEE(S): Kyokuto Seiyaku Kogyo K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000146963	A2	20000526	JP 1998-318468	19981110

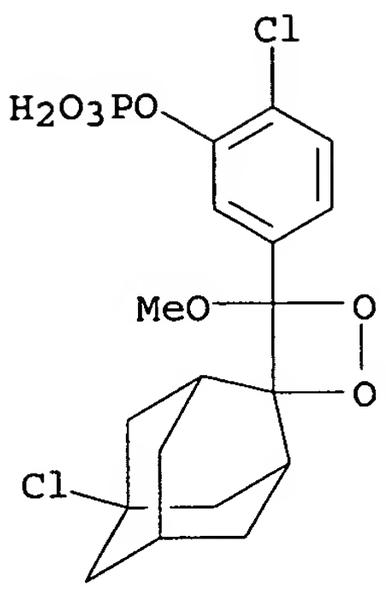
PRIORITY APPLN. INFO.: JP 1998-318468 19981110

AB Provided is an ELISA and a human IgE determination kit for diagnosis of pathogenic factor of allergy. The ELISA kit comprises carrier-immobilized IgE receptor, alkaline phosphatase-labeled anti-human IgE antibody, and chemiluminescent dioxane compound such as 2-chloro-5-(4-methoxy-spiro[1,2-dioxane-3,2'-(5'-chloro-)tricyclo[3.3.1.1.3.7]decane]-4-yl-)phenyl phosphate disodium.

IT **160081-62-9**, CDP-Star
RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(ELISA and test kit for determination of human IgE)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 32 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:281596 HCAPLUS
DOCUMENT NUMBER: 133:161507
TITLE: Development of a Sensitive Chemiluminescent Neuraminidase Assay for the Determination of Influenza Virus Susceptibility to Zanamivir
AUTHOR(S): Buxton, Rachel C.; Edwards, Brooks; Juo, Rouh R.; Voyta, John C.; Tisdale, Margaret; Bethell, Richard C.
CORPORATE SOURCE: Enzyme Pharmacology, Medicines Research Centre, Glaxo Wellcome Research, Stevenage, SG1 2NY, UK
SOURCE: Analytical Biochemistry (2000), 280(2), 291-300
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Determination of the sensitivity of influenza viruses to neuraminidase (NA) inhibitors is presently based on assays of NA function because, unlike available cell culture methods, the results of such assays are predictive of susceptibility in vivo. At present the most widely used substrate in assays of NA function is the fluorogenic reagent 2'-O-(4-methylumbelliferyl)-N-acetylneuraminic acid (MUN). A rapid assay with improved sensitivity is required because a proportion of clin. isolates has insufficient NA to be detectable in the current fluorogenic assay, and because some mutations associated with resistance to NA inhibitors reduce the activity of the enzyme. A chemiluminescence-based assay of NA activity has been developed that uses a 1,2-dioxetane derivative of sialic acid (NA-STAR) as the substrate. When compared with the fluorogenic assay, use of the NA-STAR substrate results in a 67-fold reduction in the limit of detection of the NA assay, from 200 pM (11 fmol) NA to 3 pM (0.16 fmol) NA. A panel of isolates from phase 2 clin. studies of zanamivir, which were undetectable in the fluorogenic assay, was tested for activity using the NA-STAR substrate. Of these 12 isolates with undetectable NA activity, 10 (83%) were found to have detectable NA activity using the NA-STAR substrate. A comparison of sensitivity to zanamivir of a panel of influenza A and B viruses using the two NA assay methods has been performed. IC50 values for zanamivir using the NA-STAR were in the range 1.0-7.5 nM and those for the fluorogenic assay in the range 1.0-5.7 nM (n = 6). The NA-STAR assay is a highly sensitive, rapid assay of influenza

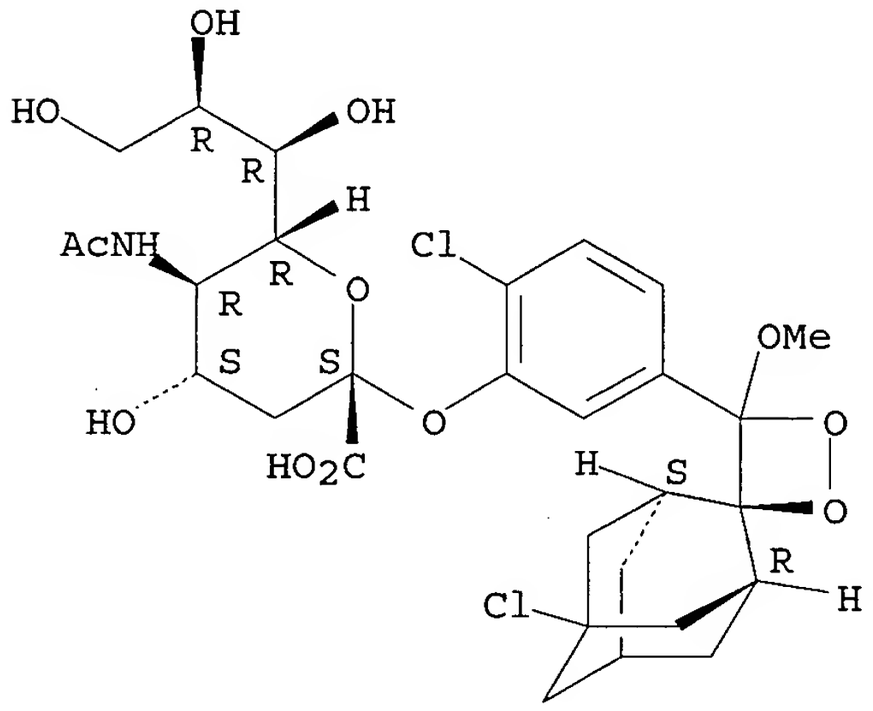
virus NA activity that is applicable to monitoring the susceptibility of influenza virus clin. isolates to NA inhibitors. (c) 2000 Academic Press.

IT **287972-45-6P**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(development of a sensitive chemiluminescent neuraminidase assay for determination of influenza virus susceptibility to zanamivir)

RN 287972-45-6 HCAPLUS

CN α-Neuraminic acid, N-acetyl-2-O-[2-chloro-5-[(1'R,3'S)-5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]phenyl]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 33 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:127020 HCAPLUS
DOCUMENT NUMBER: 132:333069
TITLE: Miniaturized direct on air sampling filter quantification of pollen allergens
AUTHOR(S): Holmquist, L.; Vesterberg, O.
CORPORATE SOURCE: Respiratory Unit, National Institute for Working Life, Solna, Stockholm, S-11279, Swed.
SOURCE: Journal of Biochemical and Biophysical Methods (2000), 42(3), 111-114
CODEN: JBBMDG; ISSN: 0165-022X
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

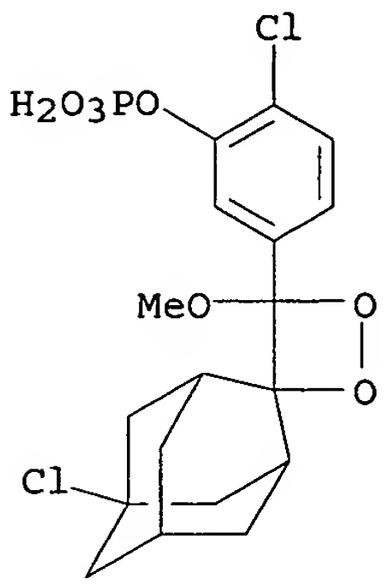
AB A recently reported luminescence immunoassay for the direct quantification of birch and grass pollen allergens on air sampling filters, DOSIS, has been miniaturized. By a com. avaliable chlorinated analog of the previously used 1,2 dioxetane phosphate derivative as enzyme substrate, the air sampling filter diameter could be reduced from 25 mm to 13 mm. The procedure leads to a more than twenty times reduction of the previously reported limit of quantification for the grass pollen allergen.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(miniaturization of air sampling filter for luminescence immunoassay quantification of pollen allergens)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 34 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:723205 HCAPLUS
DOCUMENT NUMBER: 131:318560
TITLE: Method for non-radioactive detection of membrane-bound nucleic acids
INVENTOR(S): Hoehe, Margret; Delbruck, Sebastian
PATENT ASSIGNEE(S): Genprofile AG, Germany
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957307	A1	19991111	WO 1999-DE1066	19990503
W: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CU, CZ, EE, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19856391	A1	19991111	DE 1998-19856391	19981207
CA 2340622	AA	19991111	CA 1999-2340622	19990503
AU 9942558	A1	19991123	AU 1999-42558	19990503
EP 1075551	A1	20010214	EP 1999-948556	19990503
EP 1075551	B1	20011219		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI

AT 211180	E	20020115	AT 1999-948556	19990503
JP 2002513586	T2	20020514	JP 2000-547258	19990503
US 6383756	B1	20020507	US 2001-674708	20010122

PRIORITY APPLN. INFO.:

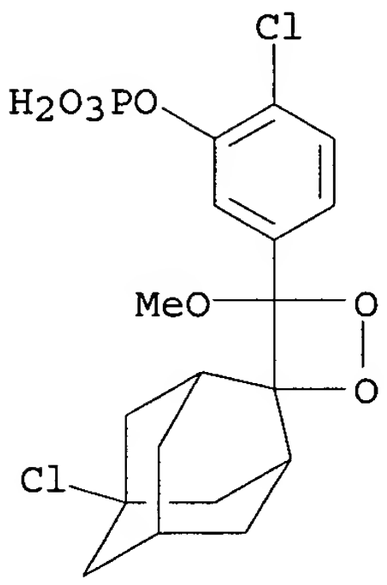
DE 1998-19821116	A	19980506
DE 1998-19856391	A	19981207
WO 1999-DE1066	W	19990503

AB The present invention relates to a novel method for non-radioactive detection of membrane-bound nucleic acids, including nucleic acids that, for instance, contain single nucleotide polymorphisms (SNP's), DNA arrays (cosmid, yeast artificial chromosomes (YACs), bacterial artificial chromosomes (BACs), cDNAs, PCR fragments, oligonucleotides), RNA arrays and all nucleic acid fragments that are transfered from gels (agarose or PAA) to membranes, including genomic DNA/plasmid DNA fragments (southern) and mRNAs (northern). The invention also relates to a test kit to carry out said method.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(method for non-radioactive detection of membrane-bound nucleic acids)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 35 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:275963 HCAPLUS

DOCUMENT NUMBER: 131:84057

TITLE: Evaluation of the fluorometric protein phosphatase inhibition assay in the determination of okadaic acid in mussels

AUTHOR(S): Mountfort, Douglas O.; Kennedy, Glenn; Garthwaite, Ian; Quilliam, Michael; Truman, Pennelope; Hannah, Donald J.

CORPORATE SOURCE: Cawthron Institute, Nelson, N. Z.

SOURCE: Toxicon (1999), 37(6), 909-922

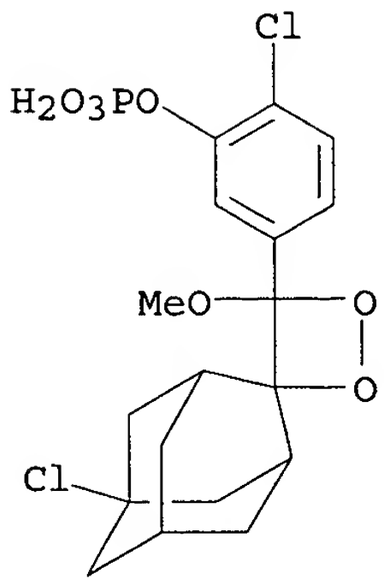
CODEN: TOXIA6; ISSN: 0041-0101
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The protein phosphatase inhibition assay for okadaic acid, the major DSP toxin, modified to use the fluorescence substrates methylumbelliferyl phosphate (MUP) and fluorescein diphosphate (FDP), was compared to the assay using p-nitrophenyl phosphate (p-NPP) and the bioluminescence assay using luciferin phosphate (L-P). Under the standard assay conditions used okadaic acid inhibited the enzyme activity dose-dependently with IC50 values of 1.5 nM (MUP) and 1.2 nM (FDP). This compares to IC50 values of 0.9 and 6 nM using L-P and p-NPP resp. CDP-star, a chemiluminescence substrate, was not hydrolyzed by the enzyme. Decreasing the enzyme concentration lowered the IC50 for the colorimetric method (IC50 = 2 nM [p-NPP], 0.75 nM enzyme) but no shift was observed with fluorometry. However at enzyme concns. < 1.5 nM (standard assay) the error margin was too great for routine anal. The method using fluorometry allowed detection of okadaic acid concns. to levels ≤1 μg/100 g of mussel tissue which is well below the limit of 20 μg/100 g (mouse bioassay) set by some regulatory agencies. Determination of the toxin content in naturally contaminated mussels in three sep. expts. gave coeffs. of variance ranging from 16 to 29% (MUP) and from 8 to 78% (p-NPP). Multicomparison studies showed that concns. of okadaic acid in naturally contaminated mussel samples determined by fluorescence generally agreed with those obtained using ELISA and LC-MS procedures, and with the mouse bioassay. However using the mouse bioassay as the standard, values determined by the ELISA, PP-2A and LC-MS all scored false neg. results compared to those for the mouse bioassay in the range 20-40 μg/100 g mussel, and at the limit of the mouse bioassay the values by the other three methods were substantially less. With few exceptions the methods scored okadaic acid with highest to lowest values in the following order: mouse bioassay > ELISA > PP-2A > LC-MS. The fluorimetric assay was both more sensitive and accurate than the colorimetric assay (the latter showed a propensity towards false positives in the region 20 μg/100 g), and the moderate increase in equipment cost appears to be outweighed by the performance of the method.

IT **160081-62-9**, CDP-star
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(evaluation of fluorometric protein phosphatase inhibition assay in determination of okadaic acid in mussels)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 36 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:104553 HCAPLUS
DOCUMENT NUMBER: 130:168358
TITLE: Chemiluminescent 1,2-dioxetanes of improved performance
INVENTOR(S): Bronstein, Irena; Edwards, Brooks; Sparks, Alison
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: U.S., 10 pp., Cont.-in-part of U.S. Ser. No. 547,372.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 17
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5869699	A	19990209	US 1997-871963	19970610
ES 2131529	T3	19990801	ES 1992-915721	19920305
US 5840919	A	19981124	US 1995-544172	19951017
US 5679803	A	19971021	US 1995-547372	19951025
US 5847161	A	19981208	US 1997-874408	19970613
US 5856522	A	19990105	US 1997-882330	19970625
US 5981768	A	19991109	US 1998-157620	19980921

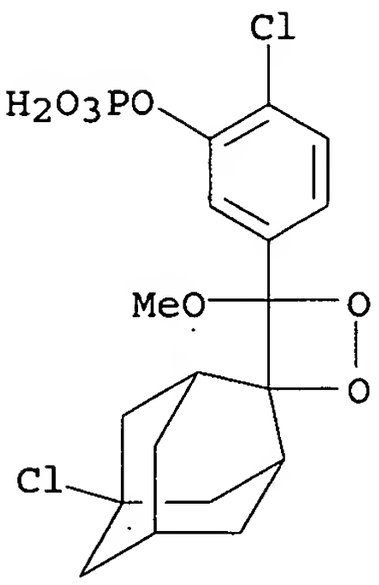
PRIORITY APPLN. INFO.:

US 1995-544172	A2	19951017
US 1995-547372	A2	19951025
EP 1992-915721	A	19920305
US 1993-57903	A2	19930507
US 1994-231673	A2	19940425
US 1995-433996	A1	19950504
US 1997-874408	A1	19970613

OTHER SOURCE(S): MARPAT 130:168358

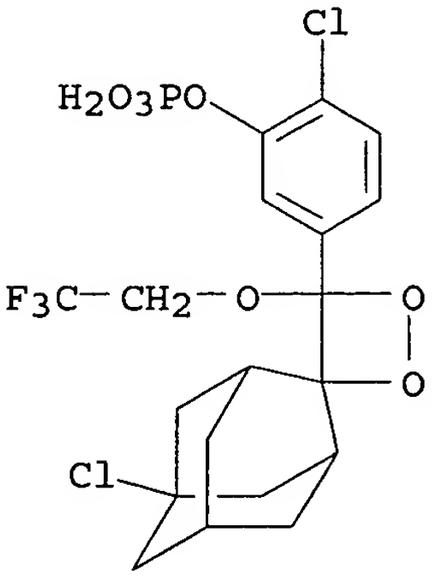
AB Spiroadamantane-dioxetanes such as I, containing a protective group which can be removed by an enzymic or a chemical trigger admixed with the dioxetane, were prepared Chemiluminescence half-lives were determined, and the use of the dioxetanes in DNA detection was tested. DNA at 0.0107 pg was detectable on a nylon membrane with I.

IT **160081-62-9**
RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)
(chemiluminescent 1,2-dioxetanes of improved performance)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

IT **189942-80-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(chemiluminescent 1,2-dioxetanes of improved performance)
RN 189942-80-1 HCAPLUS
CN Phenol, 2-chloro-5-[5'-chloro-4-(2,2,2-trifluoroethoxy)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

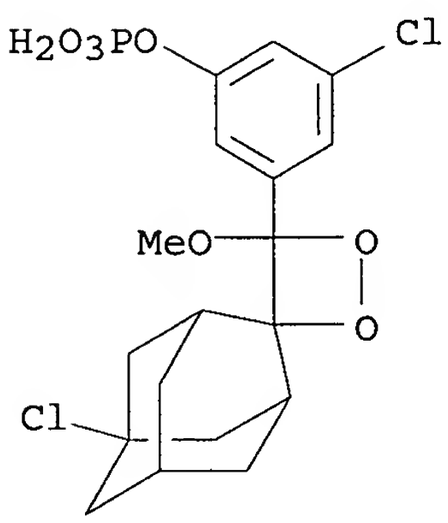
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 37 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:814009 HCAPLUS
DOCUMENT NUMBER: 130:248907
TITLE: 1,2-Dioxetane chemiluminescent detection of proteins and nucleic acids
AUTHOR(S): Olesen, Corinne E. M.; Mosier, Jennifer; Martin, Chris S.; Voyta, John C.; Bronstein, Irena
CORPORATE SOURCE: Tropix, Inc., Bedford, 01730, USA
SOURCE: Seibutsu Butsuri Kagaku (1998), 42(4), 265-279
CODEN: SBBKA4; ISSN: 0031-9082
PUBLISHER: Nippon Denki Eido Gakkai
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The use of 1,2-dioxetane chemiluminescent enzyme substrates, including AMPPD, CSPD, CDP and CDP-Star for alkaline phosphatase and Galacton-Star substrate for β-galactosidase, provides highly sensitive detection for numerous immunoassay and nucleic acid detection formats. Enzyme cleavage of the 1,2-dioxetane substrate generates a metastable anion intermediate that decomps. with the concomitant emission of light. Light emission exhibits glow kinetics, enabling the use of multiple imaging platforms for signal detection, including film-based, luminometers, low-light sensitive camera and phosphor screen instrumentation systems. Applications include both membrane-based immunodetection of proteins and nucleic acid blot hybridization, and solution-based immunoassays and nucleic acid capture/hybridization assays performed in a microwell plate.

IT **160081-61-8**, CDP **160081-62-9**, CDP-Star
201038-56-4, Galacton-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(1,2-Dioxetane chemiluminescent detection of proteins and nucleic acids)

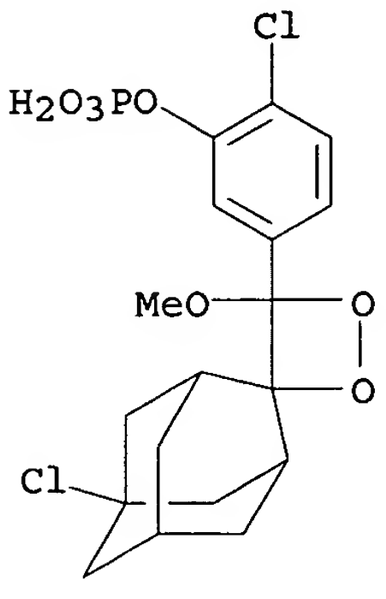
RN 160081-61-8 HCAPLUS
CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-

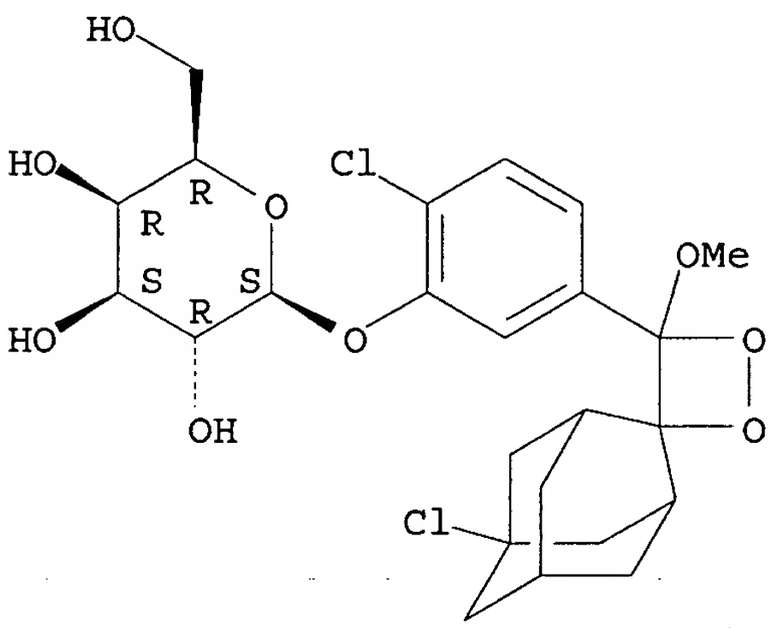
tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 201038-56-4 HCAPLUS
CN β-D-Galactopyranoside, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L21 ANSWER 38 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:774310 HCAPLUS
DOCUMENT NUMBER: 130:12153
TITLE: Chemiluminescent 1,2-dioxetanes
INVENTOR(S): Bronstein, Irena; Edwards, Brooks; Sparks, Alison
PATENT ASSIGNEE(S): Tropix Inc., USA
SOURCE: U.S., 35 pp., Cont.-in-part of U.S. 5,582,980.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 17

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5840919	A	19981124	US 1995-544172	19951017
ES 2131529	T3	19990801	ES 1992-915721	19920305
US 5538847	A	19960723	US 1993-57903	19930507
US 5582980	A	19961210	US 1994-231673	19940425
CA 2231199	AA	19970424	CA 1996-2231199	19961017
WO 9714692	A1	19970424	WO 1996-US14390	19961017
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA				
AU 9673597	A1	19970507	AU 1996-73597	19961017
AU 708266	B2	19990729		
JP 11515004	T2	19991221	JP 1996-515811	19961017
EP 1019390	A1	20000719	EP 1996-935803	19961017
EP 1019390	B1	20020724		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 221061	E	20020815	AT 1996-935803	19961017
US 5869699	A	19990209	US 1997-871963	19970610
US 5856522	A	19990105	US 1997-882330	19970625

PRIORITY APPLN. INFO.:	US 1993-57903	A2	19930507
	US 1994-231673	A2	19940425
	US 1989-367772	B3	19890717
	US 1990-559152	B2	19900725
	US 1990-574786	A3	19900830
	US 1991-806925	B2	19911211
	US 1991-806928	A2	19911212
	EP 1992-915721	A	19920305
	US 1995-433996	A1	19950504
	US 1995-544172	A	19951017
	US 1995-547372	A	19951025
	WO 1996-US14390	W	19961017

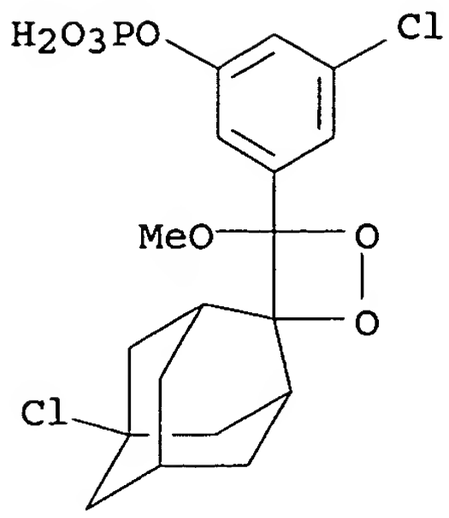
OTHER SOURCE(S): MARPAT 130:12153

AB The preparation of novel 1,2-dioxetanes, I [Y1, Y2 = independently H, OH, halo, unsubstituted lower alkyl, hydroxy lower alkyl, halo lower alkyl, Ph, halophenyl, alkoxyphenyl, alkoxyphenoxy, hydroxyalkoxy, cyano, amido, carboxyl; R = C1-20 alkyl, aryl, or aralkyl; X = enzyme-labile group selected from the group of a phosphate, galactoside, acetate, 1-phosphono-2,3-diacylglyceride, etc.], with improved chemiluminescent properties, such as signal intensity, S/N ratio, T1/2, etc. were prepared Assays, as well as kits for the performance of those assays, include the dioxetane, an enzyme capable of cleaving the X group, and in certain cases, membranes and chemiluminescent enhancement agents.

IT **160081-61-8P 160081-63-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and chemiluminescent properties of)

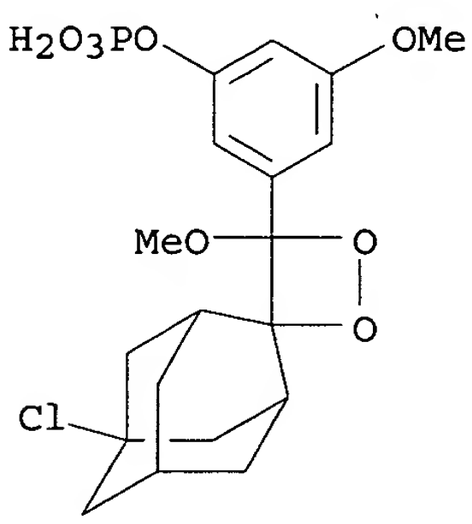
RN 160081-61-8 HCAPLUS

CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



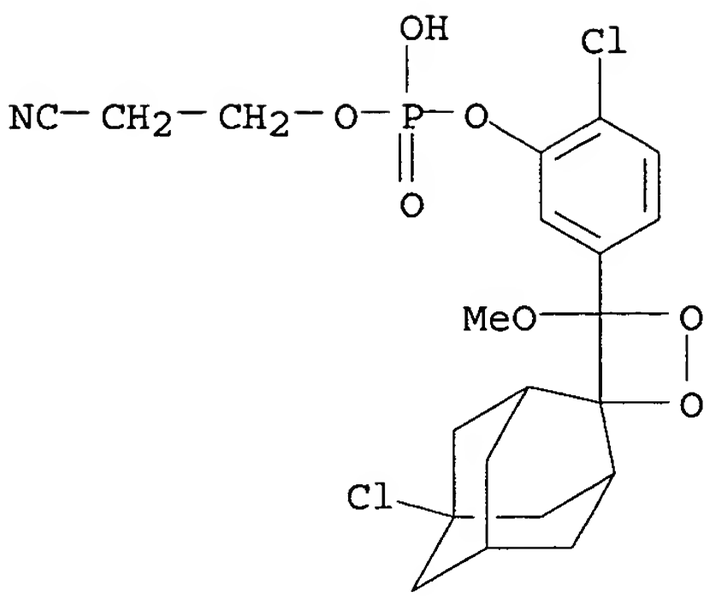
●2 Na

RN 160081-63-0 HCAPLUS
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-5-methoxy-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



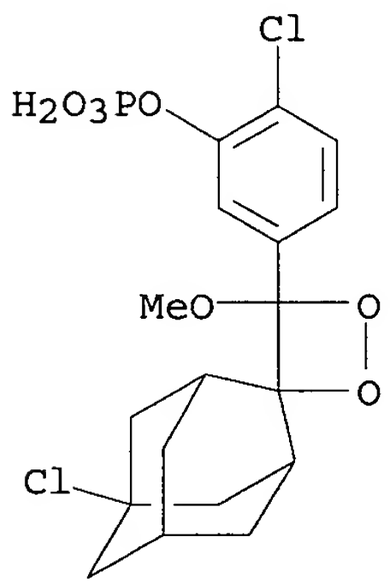
●2 Na

IT **185339-00-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
RN 185339-00-8 HCAPLUS
CN Phosphoric acid, mono[2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl] mono(2-cyanoethyl) ester, sodium salt (9CI) (CA INDEX NAME)



● Na

IT **160081-62-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of chemiluminescent dioxetanes)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 39 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:173785 HCAPLUS
DOCUMENT NUMBER: 128:290750
TITLE: Chemiluminescence-based detection of minute amounts of apoptotic DNA
AUTHOR(S): Lopez Blanco, F.; Gonzalez-Reyes, J.; Fanjul, L. F.; Ruiz de Galarreta, C. M.; Quintana Aguiar, J.

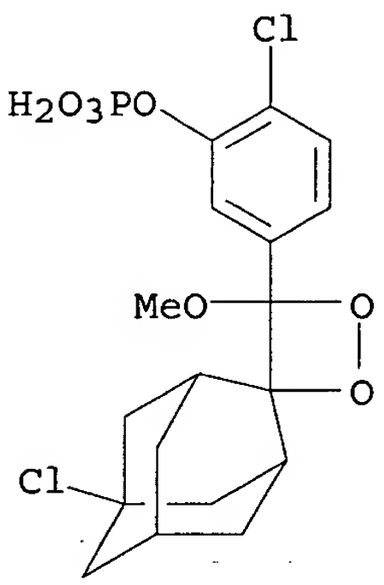
CORPORATE SOURCE: Sch. Med., Univ. Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain
SOURCE: BioTechniques (1998), 24(3), 354, 356, 358
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The internucleosomal cleavage of DNA is a prominent feature of apoptosis, which can be visualized by agarose gel electrophoresis and ethidium bromide staining as a discontinuous "ladder" of discrete 185-200-bp multimeric bands. To increase the sensitivity of the method, a variety of enzymic procedures have been developed to demonstrate electrophoretic DNA laddering in the presence of low levels of cleaved DNA. Thes procedures are time-consuming and often give rise to high background signals. To circumvent these problems, the authors present an alternative approach for the rapid nonisotopic detection of DNA laddering that at the same time allows the quant. estimation of the well-individualized internucleosomal bands in the gel. The method is based on the ability of Taq DNA polymerase to add to 3' blunted ends dATP or other deoxyribonucleotides and combines the advantages of a rapid and easy-to-perform procedure with an enhanced sensitivity due to the use of CDP-Star® as a chemiluminescent substrate.

IT **160081-62-9**, Cdp-star
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(chemiluminescence-based detection of minute amts. of apoptotic DNA)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 40 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:94330 HCAPLUS
DOCUMENT NUMBER: 128:254400
TITLE: A novel immunohistochemical semiquantitative technique for endothelial constitutive nitric oxide synthase

immunoreactivity in rat coronary artery

AUTHOR(S): Zulli, Anthony; Liu, James J.
CORPORATE SOURCE: Vascular Biology Unit, Departments of Cardiac Surgery and Medicine, University of Melbourne Austin Hospital, Heidelberg, VIC 3084, Australia

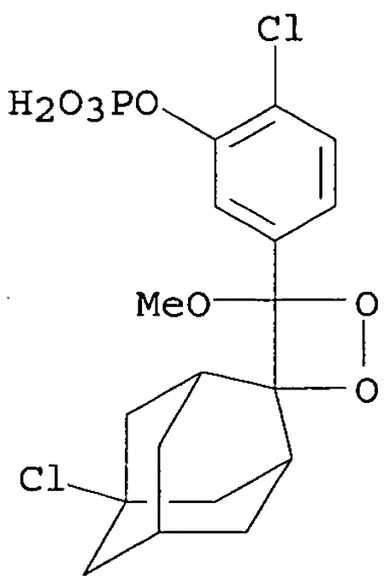
SOURCE: Journal of Histochemistry and Cytochemistry (1998), 46(2), 257-262
CODEN: JHCYAS; ISSN: 0022-1554
PUBLISHER: Histochemical Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB It has been difficult to quantify protein production in small pathol. specimens by conventional techniques. We describe a new method for semiquantification of immunohistochem. staining, which involves application of the enzyme-labeled avidin (LAB) technique, coupled with an ultra-sensitive and fast chemiluminescent substrate for alkaline phosphatase. The entire procedure can be completed in less than 3 h. The final step involves x-ray film exposure for 30 min, and the optical d. of the subsequent images is examined with a microcomputer imaging device. The optical densities are translated into relative protein concns. by a reference standard curve, obtained via an immunoblot. To establish a model for semiquantification of endothelial constitutive nitric oxide synthase (eNOS) protein, we compared the coronary arteries of WKY rats fed a normal chow diet to the coronary arteries of WKY rats fed a cholesterol diet. Using this technique, we have found a relative 130-fold decrease in eNOS in the cholesterol-fed group compared to the normal chow-fed group.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(a novel immunohistochem. semiquant. technique for endothelial constitutive nitric oxide synthase immunoreactivity in rat coronary artery)

RN 160081-62-9 HCAPLUS

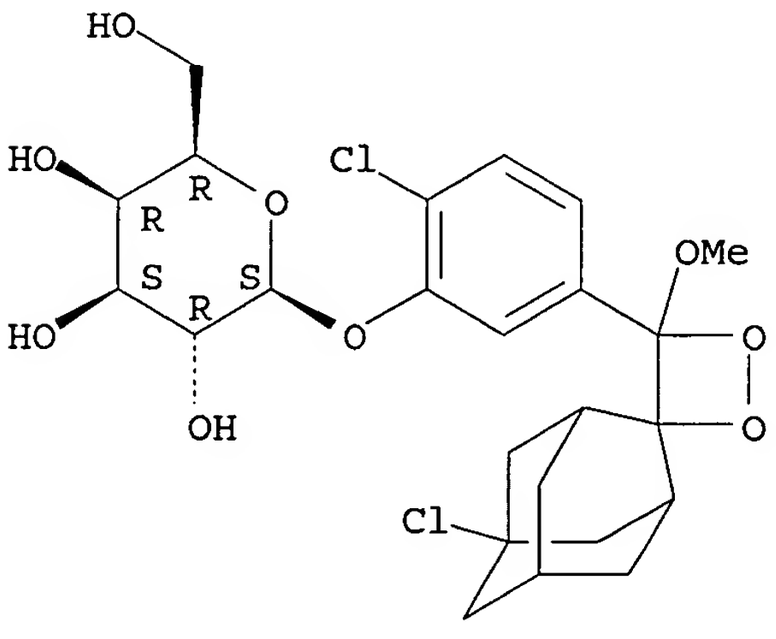
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

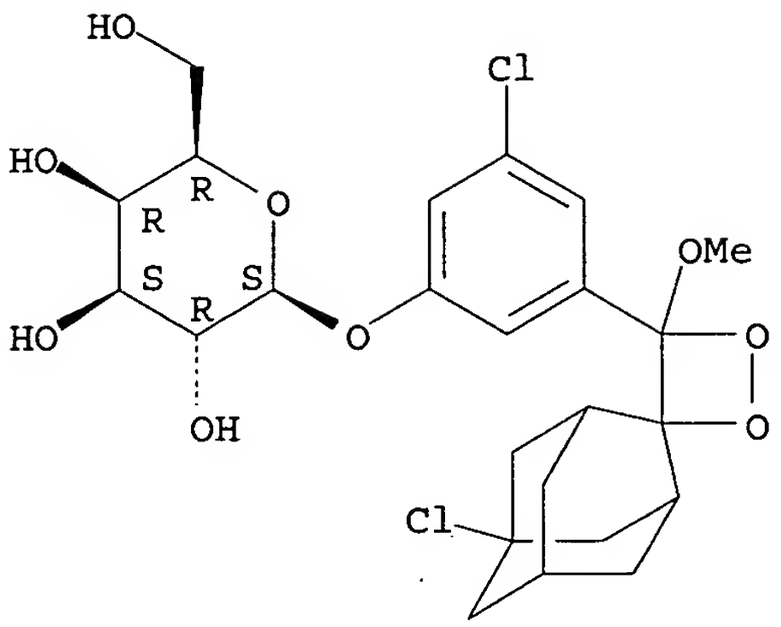
L21 ANSWER 41 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:766292 HCAPLUS
DOCUMENT NUMBER: 128:85662
TITLE: Continuous sensitive detection of β-galactosidase with a novel chemiluminescent 1,2-dioxetane
AUTHOR(S): Martin, C. S.; Olesen, C. E. M.; Liu, B.; Voyta, J. C.; Shumway, J. L.; Juo, R. R.; Bronstein, I.
CORPORATE SOURCE: Tropix, Inc., Bedford, MA, 01730, USA
SOURCE: Bioluminescence and Chemiluminescence: Molecular Reporting with Photons, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 9th, Woods Hole, Mass., Oct. 4-8, 1996 (1997), Meeting Date 1996, 525-528. Editor(s): Hastings, J. W.; Kricka, L. J.; Stanley, P. E. Wiley: Chichester, UK.
CODEN: 65JYAO
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A new chemiluminescent 1,2-dioxetane substrate, Galacton-StarTM has been developed that now enables detection of β-galactosidase or β-gal-conjugated mols. in both solution-based and membrane blotting applications. In contrast to Galacton and Galacton-Plus, Galacton-Star can be employed in an assay format in which the enzymic deglycosylation and light-producing reaction proceed at the same pH. A luminescent reaction with continuous light signal emission is initiated upon addition of substrate to enzyme with concurrent enzymic production and subsequent decomposition of the unstable light-generating anion. The development of Galacton-Star now enables the use of β-gal enzyme labels in membrane-based applications and simplifies solution-based assays for β-gal, including reporter gene assays or immunoassays, performed in a single-step reaction format. The resulting glow kinetics eliminate the need for instruments with injection capabilities.
IT **201038-56-4**, Galacton-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(continuous sensitive detection of β-galactosidase with a novel chemiluminescent 1,2-dioxetane, Galacton-Star)
RN 201038-56-4 HCAPLUS
CN β-D-Galactopyranoside, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)
Absolute stereochemistry.



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

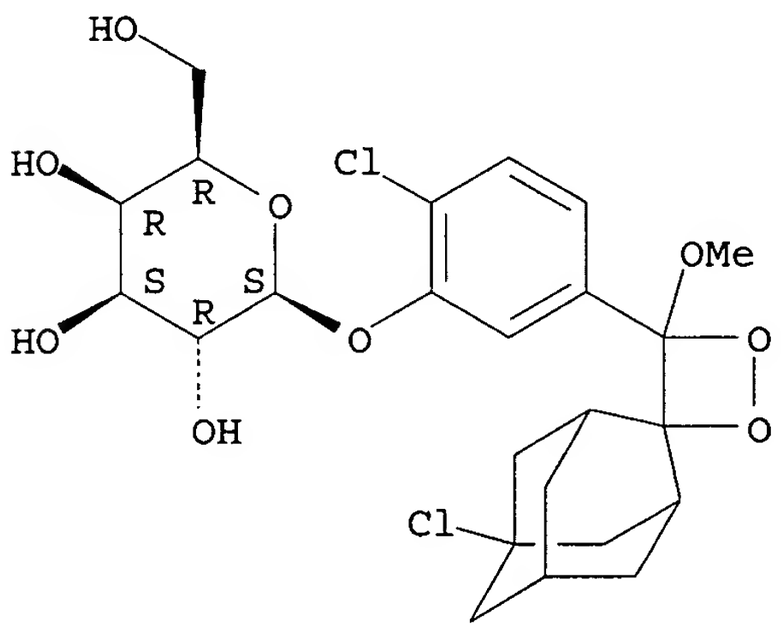
L21 ANSWER 42 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:766275 HCAPLUS
DOCUMENT NUMBER: 128:112159
TITLE: Combined luminescent assays for multiple enzymes
AUTHOR(S): Bronstein, I.; Martin, C. S.; Olesen, C. E. M.; Voyta, J. C.
CORPORATE SOURCE: Tropix, Inc., Bedford, MA, 01730, USA
SOURCE: Bioluminescence and Chemiluminescence: Molecular Reporting with Photons, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 9th, Woods Hole, Mass., Oct. 4-8, 1996 (1997), Meeting Date 1996, 451-457. Editor(s): Hastings, J. W.; Kricka, L. J.; Stanley, P. E. Wiley: Chichester, UK.
CODEN: 65JYAO
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The measurement of multiple enzyme activities in a single combined assay offers increased accuracy, precision, and throughput compared to performing individual assays. Reporter gene assays are widely used in both biomedical and pharmaceutical research, in the study of gene regulation and identification of factors that affect gene expression, including screening of combinatorial chemical and natural product libraries. Chemiluminescent reporter gene assays utilizing 1,2-dioxetane substrates offer highly sensitive enzyme detection with a wide dynamic range. 1,2-Dioxetane substrates have been incorporated in to reporter gene assays for the reporter enzymes β-galactosidase (β-gal), β-glucuronidase (GUS), and placental alkaline phosphatase (PLAP). Combined luminescent assays for β-gal/luciferase, GUS/luciferase, and PLAP/luciferase have been developed. The Dual-Light® system incorporates luciferin and Galacton-Plus® substrates, for the firefly luciferin and β-gal reporter enzymes. Glucuron® and CSPD® are the substrates for GUS and PLAP, resp. The dual enzyme activities are quantitated sequentially in a single tube in the same sample of extract from cells cotransfected with both reporter plasmids.
IT **181285-38-1**, Galacton-Plus **201038-56-4**, Galacton-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(combined luminescent assays for multiple enzymes)
RN 181285-38-1 HCAPLUS
CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 201038-56-4 HCAPLUS
CN β-D-Galactopyranoside, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 43 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:505750 HCAPLUS
DOCUMENT NUMBER: 127:119320
TITLE: Multiple reporter gene assay
INVENTOR(S): Bronstein, Irena Y.; Fortin, John J.; Martin, Chris S.; Voyta, John C.
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9724460	A1	19970710	WO 1996-US20650	19961223

W: AU, CA, JP
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

US 6602657	B1	20030805	US 1995-579787		19951228
CA 2241760	AA	19970710	CA 1996-2241760		19961223
AU 9713502	A1	19970728	AU 1997-13502		19961223
AU 732044	B2	20010412			
EP 874913	A1	19981104	EP 1996-945044		19961223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
JP 2000513563	T2	20001017	JP 1997-524534		19961223
US 6602658	B1	20030805	US 1999-296540		19990422
PRIORITY APPLN. INFO.:			US 1995-579787	A	19951228
			WO 1996-US20650	W	19961223

OTHER SOURCE(S): MARPAT 127:119320

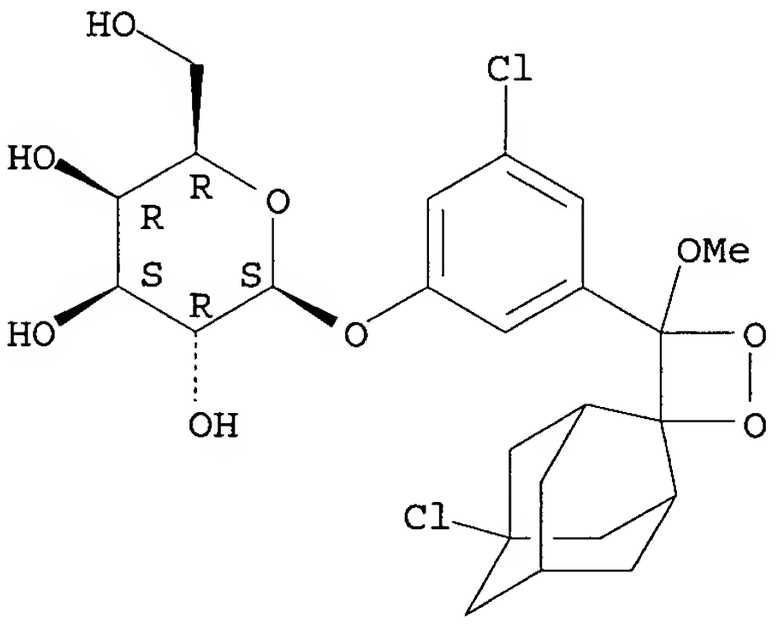
AB A nonisotopic method of measuring the activity of at least two reporter gene products in an aliquot of a sample extract is disclosed. The method is especially useful for measuring transcriptional activity of cells transfected with >1 reporter gene. The activities of a first and second reporter enzyme (selected from luciferase, β-galactosidase, β-glucuronidase, alkaline phosphatase, or carboxyl esterase) are quantified by measuring the light signal produced by degradation of a first substrate by the first reporter enzyme and the light signal produced by the degradation of a second substrate by a second reporter enzyme. Both quantifications are sequentially performed on the same aliquot of sample extract

IT **181285-38-1**, Galacton-Plus
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(multiple reporter gene assay)

RN 181285-38-1 HCAPLUS

CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



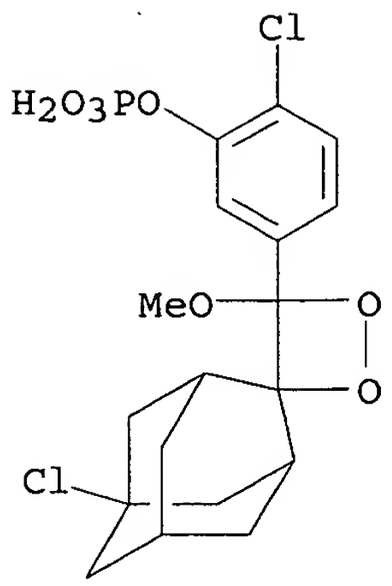
L21 ANSWER 44 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:390708 HCAPLUS
DOCUMENT NUMBER: 127:2467
TITLE: Lawn assay for compounds that affect enzyme activity or bind to target molecules

INVENTOR(S): Chelsky, Daniel; Burbaum, Jonathan J.
PATENT ASSIGNEE(S): Pharmacopeia, Inc., USA
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9716569	A1	19970509	WO 1996-US17702	19961024
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI				
US 5856083	A	19990105	US 1995-553056	19951103
AU 9675535	A1	19970522	AU 1996-75535	19961024
PRIORITY APPLN. INFO.:			US 1995-553056 A	19951103
			US 1994-239302 B2	19940506
			US 1995-436120 B2	19950508
			WO 1996-US17702 W	19961024

AB A lawn assay is described for determining compds. that affect enzyme activity or
that bind to target mols. Compds. to be screened are cleaved, and diffused from solid supports into a colloidal matrix. Enzymic catalysis or binding to target mols. by the compds. is carried out in the matrix. Active compds. are found by monitoring a photometrically detectable change in a substrate, coenzyme, or cofactor involved in the enzymic reaction, or in a labeled ligand bound to the target mol., that produces a zone of activity associated with the compds. Two combinatorial libraries were screened for carbonic anhydrase inhibitors using the above method. Thus, beads containing dihydrobenzopyrans or acylpiperidine compds. were dispersed in an agarose matrix containing carbonic anhydrase as well as substrate for the enzyme, fluorescein diacetate. In the absence of enzyme inhibition, the substrate was converted to the fluorescent compound fluorescein. Upon photolysis (to release potential inhibitors from the beads), zones of inhibition, visible as circles of decreased fluorescence, were seen around beads to which inhibitors were attached.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(inositol monophosphatase substrate; lawn assay for compds. that affect enzyme activity or bind to target mols.)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 45 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:390659 HCAPLUS
DOCUMENT NUMBER: 127:25442
TITLE: Improved chemiluminescent 1,2-dioxetanes
INVENTOR(S): Bronstein, Irena; Edwards, Brooks; Sparks, Alison; Voyta, John C.
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9714954	A1	19970424	WO 1996-US14389	19961017
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA				
US 5783381	A	19980721	US 1995-545174	19951019
CA 2231191	AA	19970424	CA 1996-2231191	19961017
AU 9673596	A1	19970507	AU 1996-73596	19961017
AU 720542	B2	20000601		
EP 876598	A1	19981111	EP 1996-935802	19961017
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000502989	T2	20000314	JP 1997-515810	19961017
US 6132956	A	20001017	US 1997-964552	19971105

PRIORITY APPLN. INFO.: US 1995-545174 A 19951019
WO 1996-US14389 W 19961017

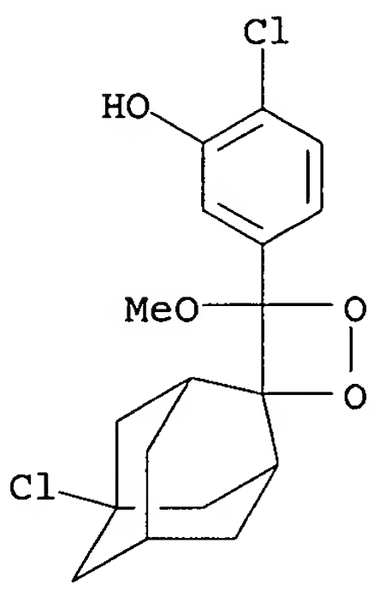
OTHER SOURCE(S): MARPAT 127:25442

AB Chemiluminescent dioxetanes that can be chemical triggered (e.g., by bases) are described by the general formulas I and II (X = H or E3Si; each E = a

C1-12 alkyl or C6-12 aryl group; R = an optionally substituted C1-20 alkyl, aryl, aralkyl, alkaryl, heteroalkyl, heteroaryl, cycloalkyl, or cycloheteroalkyl group in which heteroatoms, when present, are selected from O, N, and S; Y1 and Y2 are independently selected H, hydroxy, Cl, F, Br, I, unsubstituted lower alkyl, hydroxy lower alkyl, halo lower alkyl, Ph, halophenyl, alkoxyphenyl, cyano, or amide groups; Z = 1-3 groups independently selected from electron active groups that do not suppress chemiluminescence; one of Z1 and Z2 is H and the other is an electron active group that does not suppress chemiluminescence; one of A1 and A2 is H and the other is OX). The dioxetanes can be used to detect bases and the release of bases from various labels in organic solvents, aqueous prepns., and the atmospheric, as a means to detect the presence of a base released by phys. or natural processes, to calibrate light measuring apparatus, and to determine the amount of reducing or oxidizing agent present in the base. They can also be used in chemiluminescent light sources.

IT **190277-14-6P**
RL: ARG (Analytical reagent use); DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(chemiluminescent 1,2-dioxetanes)

RN 190277-14-6 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)- (9CI) (CA INDEX NAME)



L21 ANSWER 46 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	1997:374833 HCAPLUS
DOCUMENT NUMBER:	126:343560
TITLE:	Preparation of spiro[1,2-dioxetane-3,2'-adamantane]-4-ylphenyl phosphates as chemiluminescent reagents
INVENTOR(S):	Bronstein, Irena; Edwards, Brooks; Sparks, Alison
PATENT ASSIGNEE(S):	Tropix, Inc., USA
SOURCE:	PCT Int. Appl., 39 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	17

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9714692	A1	19970424	WO 1996-US14390	19961017

W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA

ES 2131529	T3	19990801	ES 1992-915721		19920305
US 5840919	A	19981124	US 1995-544172		19951017
US 5679803	A	19971021	US 1995-547372		19951025
AU 9673597	A1	19970507	AU 1996-73597		19961017
AU 708266	B2	19990729			
JP 11515004	T2	19991221	JP 1996-515811		19961017
EP 1019390	A1	20000719	EP 1996-935803		19961017
EP 1019390	B1	20020724			

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

AT 221061	E	20020815	AT 1996-935803		19961017
US 5847161	A	19981208	US 1997-874408		19970613
US 5856522	A	19990105	US 1997-882330		19970625
US 5981768	A	19991109	US 1998-157620		19980921
PRIORITY APPLN. INFO.:			US 1995-544172	A	19951017
			US 1995-547372	A	19951025
			EP 1992-915721	A	19920305
			US 1993-57903	A2	19930507
			US 1994-231673	A2	19940425
			US 1995-433996	A1	19950504
			WO 1996-US14390	W	19961017
			US 1997-874408	A1	19970613

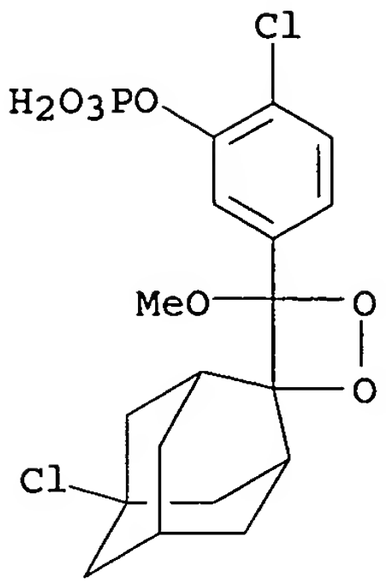
OTHER SOURCE(S): MARPAT 126:343560

AB Title compds. [I; R = haloalkyl, haloaryl, etc.; R1R2 = atoms to complete (un)substituted adamantylidene; R3 = ZOR4; R4 = H, trialkylsilyl, enzyme-cleavable group, etc.; Z = substituted phenylene or -naphthylene] were prepared Thus, 4,3-Cl(MeO)C6H3CO2CH2CF3 was condensed with 2-adamantanone and the product converted in 2 steps to 4,3-Cl[(NaO)2(O)PO]C6H3CR1R2OCH2CF3 (R1R2 = 2-adamantylidene) which was oxygenated in the presence of tetraphenylporphine to give I [R = CH2CF3, R1R2 = 2-adamantylidene, R3 = 4,3-Cl[(NaO)2(O)PO]C6H3]. Data for chemiluminescent properties of I were given.

IT **160081-62-9P 189942-80-1P**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(preparation of spiro[1,2-dioxetane-3,2'-adamantane]-4-ylphenyl phosphates as chemiluminescent reagents)

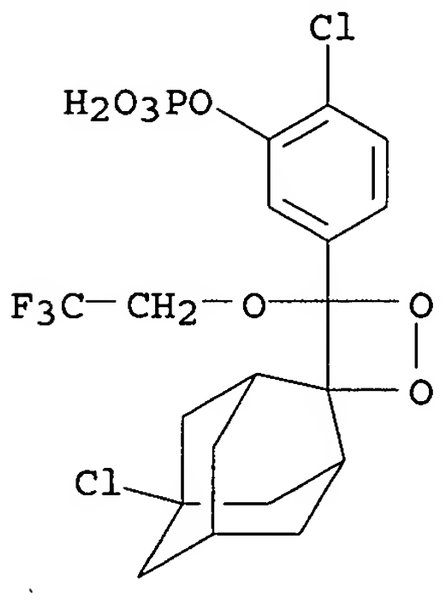
RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 189942-80-1 HCAPLUS
CN Phenol, 2-chloro-5-[5'-chloro-4-(2,2,2-trifluoroethoxy)spiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl]-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 47 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:316831 HCAPLUS
DOCUMENT NUMBER: 127:13859
TITLE: Sensitive chemiluminescence in situ hybridization for the detection of human papillomavirus genomes in biopsy specimens
AUTHOR(S): Musiani, Monica; Zerbini, Marialuisa; Venturoli, Simona; Gentilomi, Giovanna; Gallinella, Giorgio; Manaresi, Elisabetta; La Placa, Michelangelo; D'Antuono, Antonietta; Roda, Aldo; Pasini, Patrizia
CORPORATE SOURCE: Institute of Microbiology, University of Bologna, Bologna, 40138, Italy

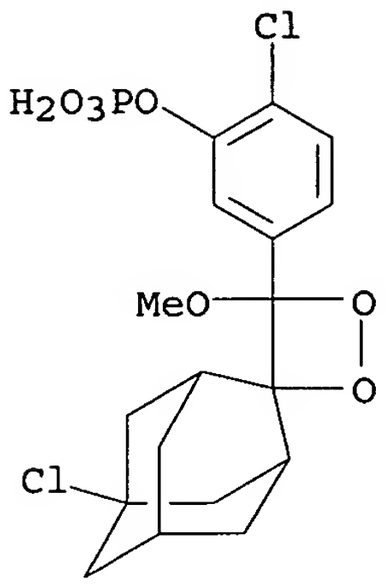
SOURCE: Journal of Histochemistry and Cytochemistry (1997), 45(5), 729-735
CODEN: JHCYAS; ISSN: 0022-1554
PUBLISHER: Histochemical Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A sensitive chemiluminescence in situ hybridization assay was developed for detection of human papillomavirus (HPV) DNA for objective and semiquant. evaluation of the results. The hybridization reaction was performed using either digoxigenin-, biotin-, or fluorescein-labeled probes, visualized with alkaline phosphatase as the revealing enzyme and a highly sensitive 1,2 dioxetane phosphate as chemiluminescent substrate. The light emitted from the hybridized probes was detected, analyzed, and measured using a high-performance, low light-level imaging luminograph connected to an optical microscope and to a personal computer for quantification of the photon fluxes and for image anal. The system operated in consecutive steps. First, hybridized specimens were recorded in transmitted light. Then the net luminescent signal was recorded, and then an overlay of the 2 images provided by the transmitted light and by the luminescent signal allowed the spatial distribution of the target DNA to be localized, measured, and evaluated. Biopsy specimens from different pathol. conditions associated with HPV, which had previously been proved pos. for HPV DNA with the polymerase chain reaction (PCR), were analyzed. The chemiluminescence in situ hybridization proved sensitive and specific with digoxigenin-, biotin-, or fluorescein-labeled probes, and provided an objective evaluation of the results. The results obtained with chemiluminescence in situ hybridization were also compared with results obtained with in situ hybridization with colorimetric detection, with good concordance of the data. Chemiluminescence in situ hybridization therefore offers the possibility of detecting HPV DNA with great sensitivity in biopsy specimens. Moreover, the images of the samples, stored in the computer, are a permanent record of the reaction and can also be sent for evaluation or comparison to other labs. using computer networks.

IT **160081-62-9**, CDP Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(sensitive chemiluminescence in situ hybridization for the detection of human papillomavirus genomes in biopsy specimens)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 48 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:240626 HCAPLUS
DOCUMENT NUMBER: 126:222603
TITLE: Method for enhancing chemiluminescence
INVENTOR(S): Kohne, David E.
PATENT ASSIGNEE(S): Kohne, David E., USA
SOURCE: PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9705209	A1	19970213	WO 1996-US12300	19960726
W: AU, BR, CA, CN, FI, JP, KR, NO, NZ				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9666003	A1	19970226	AU 1996-66003	19960726
PRIORITY APPLN. INFO.:			US 1995-1641P	P 19950728
			WO 1996-US12300	W 19960726

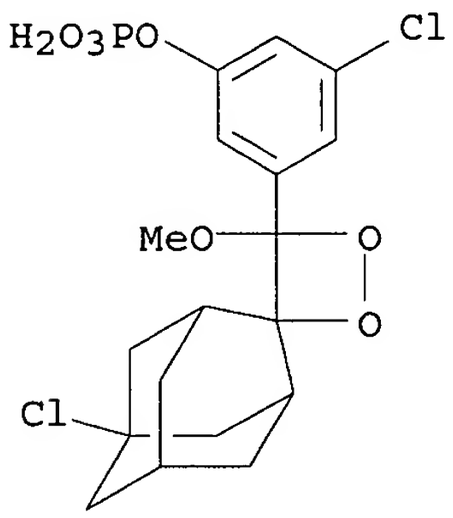
AB The invention relates to a method for obtaining increased enhancement of luminescence from art known luminescent systems by the incorporation into the art known luminescent system of one or more detergents and one or more enhancer. Such enhanced luminescence can occur in solution or on a solid surface. The method can be practiced using anionic, cationic, zwitterionic, and non-ionic surface active or detergent compds. The method has broad application in any area where a signal generation system is required. Such areas include medical, veterinary, agricultural, and industrial diagnostics and quality control. This includes any assay type designed to detect and/or quantitate the presence of any analyte, including industrial and pharmaceutical compds. as well as biol. compds. and organisms of all types such as proteins, carbohydrates, lipids, nucleic acids, bacteria and viruses. Examples of such tests include those utilizing nucleic acid probes, as well as immuno- and receptor-assays.

IT **160081-61-8 160081-62-9**, Cdp-star

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(method for enhancing chemiluminescence)

RN 160081-61-8 HCAPLUS

CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



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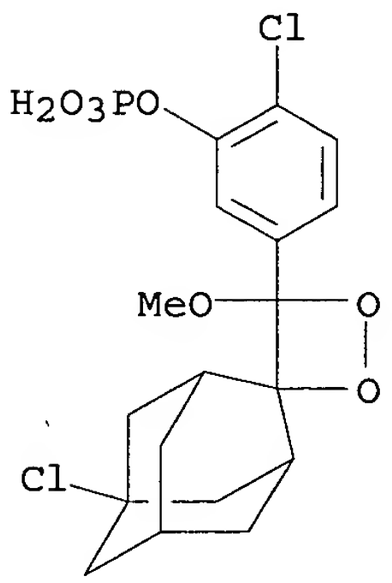
RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



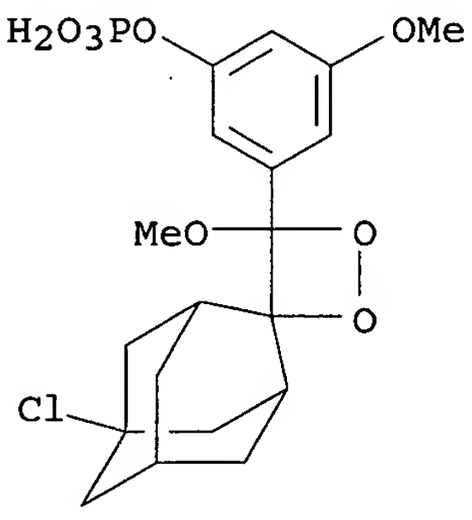
●2 Na

L21 ANSWER 49 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:177266 HCAPLUS
DOCUMENT NUMBER: 126:207893
TITLE: Chemiluminescent substrates for detection of restriction fragment length polymorphism
AUTHOR(S): Price, Dc

CORPORATE SOURCE: United States Army Criminal Investigation Laboratory, Fort Gillem, Forest Park, GA, 30050-5000, USA
SOURCE: Science & Justice (1996), 36(4), 275-282
CODEN: SJUSFE; ISSN: 1355-0306
PUBLISHER: Forensic Science Society
DOCUMENT TYPE: Journal
LANGUAGE: English

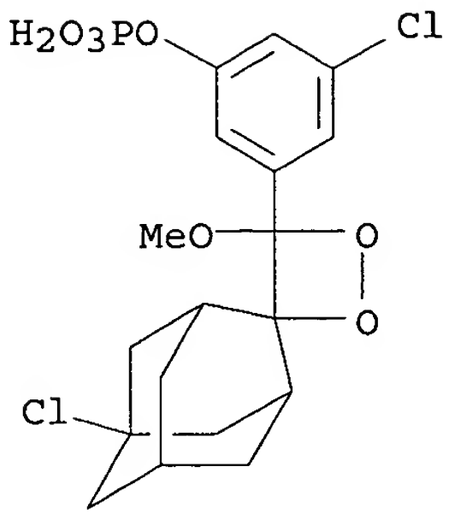
AB Five new enzyme-triggered dioxetane substrates were evaluated for restriction fragment length polymorphism (RFLP) anal. of HaeIII-restricted DNA. Of these, one substrate designated CDP-Star provided unsurpassed sensitivity within one working day without the presence of an enhancer. Far greater sensitivity was obtained from chemiluminescent detection of DNA on MSI neutral membranes than the sensitivity obtained from six day film exposures of 32P-labeled insert probes on PALL B membranes, including the detection of most low-mol.-weight alleles. For nylon membranes better suited for alkaline phosphatase-triggered chemiluminescent detection of DNA, high salt/neutral pH southern transfer conditions were better than alkaline Southern transfer conditions.

IT **160081-63-0**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(MDP; chemiluminescent substrates for detection of restriction fragment length polymorphism)
RN 160081-63-0 HCAPLUS
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-5-methoxy-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



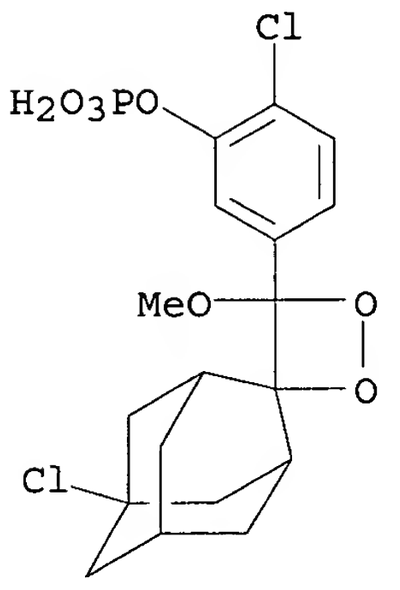
●2 Na

IT **160081-61-8**, CDP **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent substrates for detection of restriction fragment length polymorphism)
RN 160081-61-8 HCAPLUS
CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 50 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:26978 HCAPLUS
DOCUMENT NUMBER: 126:72322
TITLE: Chemiluminescent 1,2-dioxetanes
INVENTOR(S): Bronstein, Irena; Edwards, Brooks; Sparks, Alison
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: U.S., 15 pp., Cont.-in-part of U.S. Ser. No. 57,903.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 17
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 5582980	A	19961210	US 1994-231673	19940425
US 5177241	A	19930105	US 1990-537788	19900614
US 5112960	A	19920512	US 1990-574786	19900830
JP 04124185	A2	19920424	JP 1990-239764	19900910
JP 11021285	A2	19990126	JP 1996-86324	19910830
ES 2131529	T3	19990801	ES 1992-915721	19920305
US 5637747	A	19970610	US 1992-948423	19920922
US 5648555	A	19970715	US 1993-45136	19930412
US 5538847	A	19960723	US 1993-57903	19930507
US 5543295	A	19960806	US 1994-233085	19940425
WO 9426726	A1	19941124	WO 1994-US4555	19940506
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9467741	A1	19941212	AU 1994-67741	19940506
AU 676327	B2	19970306		
EP 649417	A1	19950426	EP 1994-915887	19940506
EP 649417	B1	20010919		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 07509736	T2	19951026	JP 1994-525458	19940506
JP 2837276	B2	19981214		
EP 1120422	A1	20010801	EP 2001-104599	19940506
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
EP 1120423	A1	20010801	EP 2001-104600	19940506
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
AT 205839	E	20011015	AT 1994-915887	19940506
NO 9500065	A	19950106	NO 1995-65	19950106
US 5679802	A	19971021	US 1995-433996	19950504
US 5840919	A	19981124	US 1995-544172	19951017
US 5831102	A	19981103	US 1996-598353	19960208
US 5777133	A	19980707	US 1997-791050	19970128
AU 9724749	A1	19970814	AU 1997-24749	19970606
AU 695229	B2	19980806		
US 5856522	A	19990105	US 1997-882330	19970625
NO 2000003485	A	19950106	NO 2000-3485	20000706

PRIORITY APPLN. INFO.:

US 1989-367772	B3	19890717
US 1990-559152	B2	19900724
US 1990-574786	A3	19900830
US 1991-806925	B2	19911211
US 1993-57903	A2	19930507
US 1986-889823	A1	19860724
US 1986-889825	A2	19860724
US 1987-140197	B2	19871231
US 1989-411387	A1	19890922
US 1990-537788	A1	19900614
US 1991-619526	A1	19910118
JP 1991-518245	A3	19910830
US 1991-806928	A2	19911212
EP 1992-915721	A	19920305
US 1992-948423	A1	19920922
US 1992-959531	A1	19921013
US 1994-231673	A	19940425
US 1994-233085	A1	19940425
EP 1994-915887	A3	19940506
WO 1994-US4555	W	19940506
US 1995-433996	A1	19950504

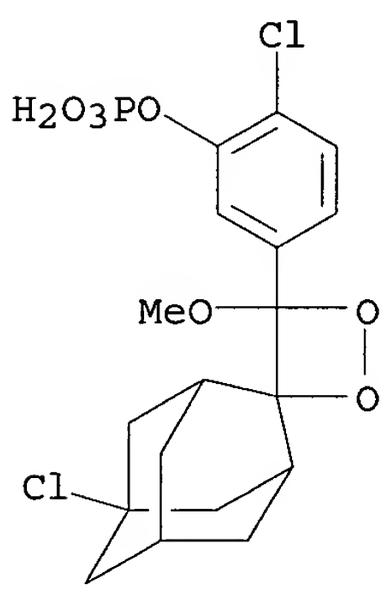
OTHER SOURCE(S): MARPAT 126:72322

AB Spiroadamantyl dioxetanes bearing an alkoxy substituent and a Ph substituted on the dioxetane ring can be activated to produce chemiluminescence if the aromatic substituent bears a meta-substituted moiety designated OX, wherein the X is cleaved by an enzyme with which the dioxetane is permitted to come in contact with. The T1/2 kinetics of the chemiluminescent reaction, as well as the signal intensity and/or quantum yield of the chemiluminescent reaction, can be altered by addition of a chlorine substituent at position 4 on the Ph ring. Signal strength can be enhanced further by recognized chemiluminescent enhancers. One such chemiluminescent dioxetane was prepared as a substrate for alkaline phosphatase for use in, e.g., enzyme immunoassays.

IT **160081-62-9P**
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(chemiluminescent 1,2-dioxetanes preparation as enzyme substrates in anal.)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)

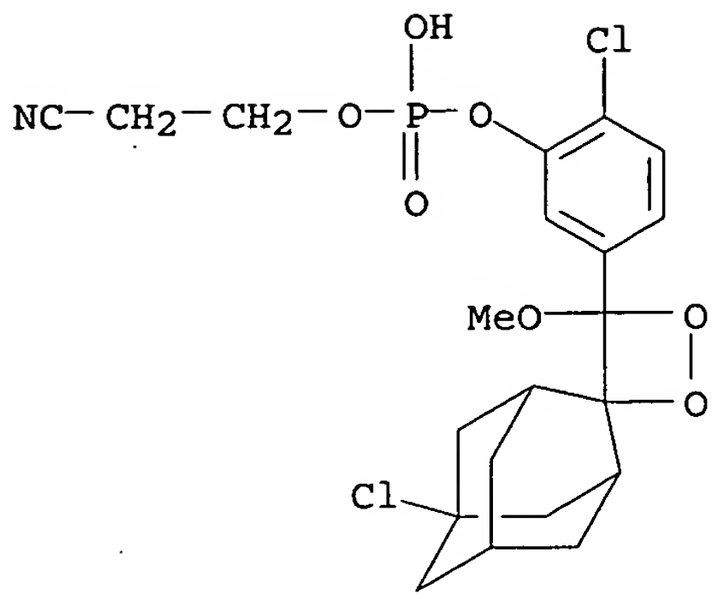


●2 Na

IT **185339-00-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(chemiluminescent 1,2-dioxetanes preparation as enzyme substrates in anal.)

RN 185339-00-8 HCAPLUS

CN Phosphoric acid, mono[2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl] mono(2-cyanoethyl) ester, sodium salt (9CI) (CA INDEX NAME)



● Na

L21 ANSWER 51 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:554215 HCAPLUS
DOCUMENT NUMBER: 125:213510
TITLE: Dual luminescence-based reporter gene assay for luciferase and β-galactosidase
AUTHOR(S): Martin, Chris S.; Wight, Patrica A.; Dobretsova, Anna; Bronstein, Irena
CORPORATE SOURCE: Tropix, Inc., Bedford, MA, USA
SOURCE: BioTechniques (1996), 21(3), 520-524
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton
DOCUMENT TYPE: Journal
LANGUAGE: English

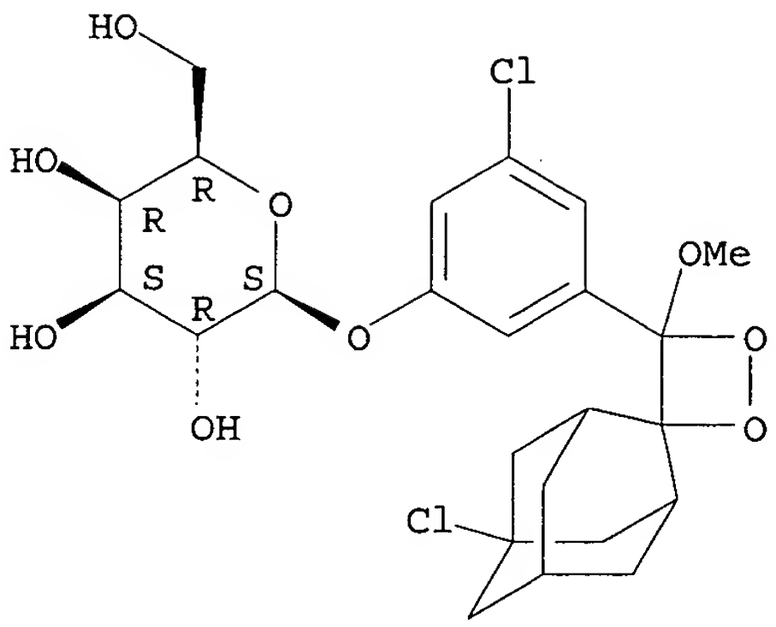
AB A unique combined luminescence assay for firefly (Photinus pyralis) luciferase and β-galactosidase (β-gal) reporter gene products is described. Luciferase and β-gal activities are determined with the same aliquot of cell lysate prepared from cells cotransfected with both reporter genes, thereby reducing manual labor and increasing exptl. accuracy. With the Dual-Light assay system, luciferase activity is measured first with an enhanced luciferase assay, followed by quantitation of β-gal with Galacton-Plus chemiluminescent substrate and Sapphire-II enhancer. Highly sensitive detection of luciferase (2 fg) and β-gal (8 fg) is achieved with a dynamic range over seven orders of magnitude of enzyme concentration Comparative anal. of both independent and combined (Dual-Light) detection methods for cells co-transfected with luciferase and β-gal reporter genes is also described.

IT **181285-38-1**, Galacton-Plus
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(assay reagent for β-galactosidase luminescence assay; dual luminescence-based reporter gene assay for luciferase and β-galactosidase)

RN 181285-38-1 HCAPLUS

CN β-D-Galactopyranoside, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)phenyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L21 ANSWER 52 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:524244 HCAPLUS
DOCUMENT NUMBER: 125:187559
TITLE: Chemiluminescent 1,2-dioxetanes
INVENTOR(S): Bronstein, Irená; Edwards, Brooks; Sparks, Alison
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: U.S., 26 pp., Cont.-in-part of U.S. 5,330,900.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 17
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5538847	A	19960723	US 1993-57903	19930507
US 5177241	A	19930105	US 1990-537788	19900614
US 5112960	A	19920512	US 1990-574786	19900830
JP 04124185	A2	19920424	JP 1990-239764	19900910
JP 11021285	A2	19990126	JP 1996-86324	19910830
US 5330900	A	19940719	US 1991-806928	19911212
ES 2131529	T3	19990801	ES 1992-915721	19920305
US 5637747	A	19970610	US 1992-948423	19920922
US 5648555	A	19970715	US 1993-45136	19930412
US 5543295	A	19960806	US 1994-233085	19940425
US 5582980	A	19961210	US 1994-231673	19940425
CA 2139348	AA	19941124	CA 1994-2139348	19940506
CA 2139348	C	20040316		
WO 9426726	A1	19941124	WO 1994-US4555	19940506
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RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9467741	A1	19941212	AU 1994-67741	19940506
AU 676327	B2	19970306		
EP 649417	A1	19950426	EP 1994-915887	19940506
EP 649417	B1	20010919		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 07509736	T2	19951026	JP 1994-525458	19940506
JP 2837276	B2	19981214		
EP 1120422	A1	20010801	EP 2001-104599	19940506

	R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,	IE	
EP	1120423				A1	20010801		EP	2001-104600						19940506				
	R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,	IE	
AT	205839				E	20011015		AT	1994-915887						19940506				
FI	9500075				A	19950105		FI	1995-75						19950105				
NO	9500065				A	19950106		NO	1995-65						19950106				
US	5679802				A	19971021		US	1995-433996						19950504				
US	5840919				A	19981124		US	1995-544172						19951017				
US	5851771				A	19981222		US	1996-588810						19960119				
US	5831102				A	19981103		US	1996-598353						19960208				
US	5777133				A	19980707		US	1997-791050						19970128				
AU	9724749				A1	19970814		AU	1997-24749						19970606				
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US	5856522				A	19990105		US	1997-882330						19970625				
US	6022964				A	20000208		US	1997-904847						19970801				
US	6140495				A	20001031		US	1999-296539						19990422				
NO	2000003485				A	19950106		NO	2000-3485						20000706				
US	6346615				B1	20020212		US	2000-656213						20000906				

PRIORITY APPLN. INFO.:

US	1989-367772	B3 19890717
US	1990-559152	B2 19900725
US	1990-574786	A3 19900830
US	1991-806928	A2 19911212
US	1986-889823	A1 19860724
US	1986-889825	A2 19860724
US	1987-140197	B2 19871231
US	1989-411387	A1 19890922
US	1990-537788	A1 19900614
US	1991-619526	A1 19910118
JP	1991-518245	A3 19910830
US	1991-806925	B2 19911211
EP	1992-915721	A 19920305
US	1992-948423	A1 19920922
US	1992-959531	A1 19921013
US	1993-57903	A2 19930507
US	1994-231673	A 19940425
US	1994-233085	A1 19940425
EP	1994-915887	A3 19940506
WO	1994-US4555	W 19940506
US	1995-433996	A1 19950504
US	1996-588810	A1 19960119
US	1997-904847	A1 19970801
US	1999-296539	A1 19990422

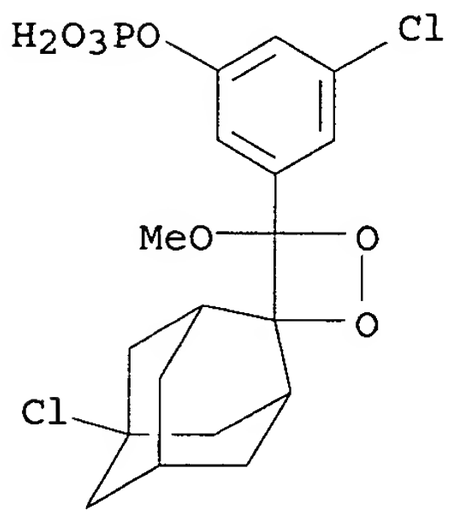
OTHER SOURCE(S): MARPAT 125:187559

AB Spiroadamantyl dioxetanes bearing an alkoxy substituent, and an aromatic substituent of Ph or naphthyl on the dioxetane ring can be activated to show chemiluminescence if the aromatic substituent bears a moiety that can be cleaved by an enzyme with which the dioxetane is permitted to come in contact with. The kinetics of the chemiluminescent reaction, as well as the signal intensity, or quantum yield of the chemiluminescent reaction, can be altered by selection of an electron-withdrawing or an electron-donating group at positions on the aromatic substituent other than those adjacent the point of attachment to the dioxetane. Signal strength can further be enhanced by recognized chemiluminescent enhancers. Thus, 3-chloro-5-(methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]-decan]-4-yl)-1-Ph phosphate was prepared by a series of reactions starting from 3-chloro-5-methoxy-4-trifluoromethanesulfonyloxybenzaldehyde. The chemiluminescent properties of these compds. and their uses in chemiluminescent DNA sequencing were demonstrated.

IT **160081-61-8P 160081-63-0P**

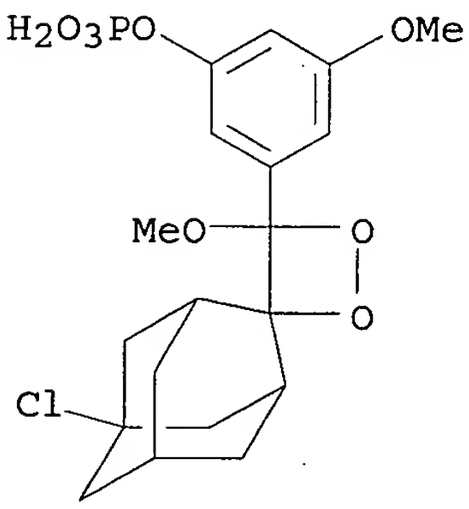
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(preparation of chemiluminescent dioxetanes for DNA sequencing)

RN 160081-61-8 HCAPLUS
CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 160081-63-0 HCAPLUS
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-5-methoxy-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 53 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:498247 HCAPLUS
DOCUMENT NUMBER: 125:159683
TITLE: CDP-STAR as a chemiluminescent substrate for use with alkaline phosphatase labeled probes
AUTHOR(S): Childs, W. P.; Rysiecki, G.; Elsmore, P.
CORPORATE SOURCE: Cellmark Diagnostics, Abingdom/Oxfordshire, OX14 1DY,

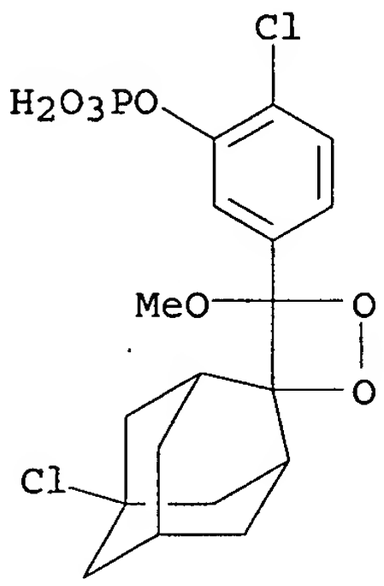
UK
SOURCE: Advances in Forensic Haemogenetics (1996), 6, 365-367
CODEN: AFHAE8; ISSN: 0930-9535
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Alkaline phosphatase-labeled probes have been widely adopted for use in DNA fingerprinting and profiling. One of the slowest parts of the procedure is exposure of hybridized membranes to X-ray film. In an effort to shorten exposures and reduce the overall length of the DNA profiling process, the authors here examine the performance of two different chemiluminescent substrates, Lumi-Phos 530 and CDP-Star.

IT **160081-62-9**, Cdp-star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(CDP-STAR as a chemiluminescent substrate for use with alkaline phosphatase labeled probes)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 54 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:498237 HCAPLUS
DOCUMENT NUMBER: 125:160604
TITLE: Use of CDP-STAR in a fast and highly sensitive chemiluminescent detection procedure for VNTR loci with neutral and charged membranes.
AUTHOR(S): Leary, S. L.; Victor, J.; Balazs, I.
CORPORATE SOURCE: Lifecodes Corporation, Stamford, CT, 06902, USA
SOURCE: Advances in Forensic Haemogenetics (1996), 6, 349-352
CODEN: AFHAE8; ISSN: 0930-9535
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English

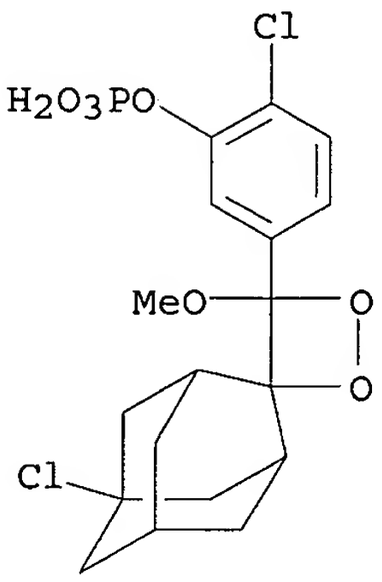
AB The development of a protocol for the use of a new, highly-sensitive alkaline phosphatase substrate, CDP-Star (Tropix Inc., Bedford, MA) with a number of alkaline phosphatase oligonucleotides (AP-probes) and with either charged or

neutral membranes is discussed.

IT **160081-62-9**, Cdp-star
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(use of CDP-STAR in a fast and highly sensitive chemiluminescent detection procedure for VNTR loci)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



L21 ANSWER 55 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:336981 HCAPLUS
DOCUMENT NUMBER: 125:27091
TITLE: A comparison of different chemiluminescent substrates for the detection of endothelial adhesion molecule transcripts
AUTHOR(S): Collie-Duguid, Elaina S. R.; Wahle, Klaus W. J.
CORPORATE SOURCE: Dept. Biochemistry, Rowett Res. Inst., Bucksburn, Aberdeen, AB2 9SB, UK
SOURCE: Biochemical Society Transactions (1996), 24(2), 256S
CODEN: BCSTB5; ISSN: 0300-5127
PUBLISHER: Portland Press
DOCUMENT TYPE: Journal
LANGUAGE: English

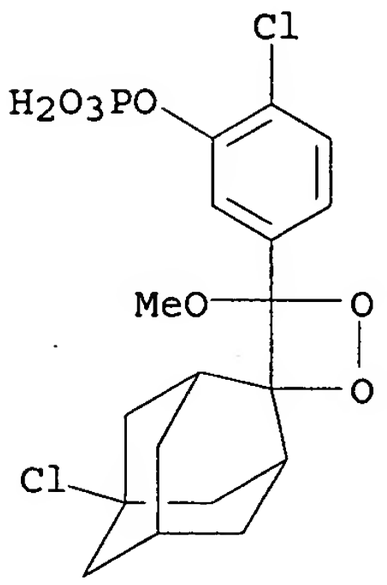
AB Two chemiluminescent substrates, CSPD and CDP-Star, were compared for their efficiency in detecting transcripts for intercellular adhesion mol.-1 (ICAM-1), endothelial adhesion mol.-1 (E-Selectin), vascular cell adhesion mol.-1 (VCAM-1),and β-actin (control mRNA) on Northern blots by the method of P. Trayhurn et al. (1994, 1995). CDP-Star provided a higher level of sensitivity than CSPD when used to detect ICAM-1 transcripts in IL-1β-activated HUVEC cells. However, when the blot was stripped and reprobed for E-Selectin and VCAM-1 mRNAs, the prolonged exposure times required for these weaker signals resulted in a high ratio of non-specific background to signal when CDP-Star was used. When CSPD was used, each of the adhesion mol. transcripts and the β-actin transcript could be detected on the same Northern blot following stripping

and reprobing.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(comparison of different chemiluminescent substrates for detection of endothelial adhesion mol. transcripts)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 56 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:316381 HCAPLUS

DOCUMENT NUMBER: 125:52703

TITLE: Rapid and highly sensitive detection of digoxigenin-labeled nucleic acids by improved chemiluminescent AP substrates

AUTHOR(S): Hoeltke, Hans-Joachim; Schneider, Susanne; Ettl, Irene; Binsack, Ralf; Obermaier, Irmgard; Seller, Monika; Sagner, Gregor

CORPORATE SOURCE: Department Molecular Biology, Boehringer Mannheim GmbH, Penzberg, D-82372, Germany

SOURCE: Bioluminescence and Chemiluminescence: Fundamentals and Applied Aspects, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 8th, Cambridge, UK, Sept. 5-8, 1994 (1994), 273-276. Editor(s): Campbell, Andrew Keith; Kricka, Larry J.; Stanley, Philip E. Wiley: Chichester, UK.
CODEN: 62UZAR

DOCUMENT TYPE: Conference

LANGUAGE: English

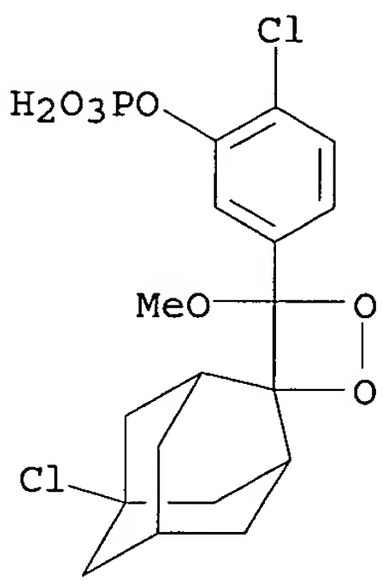
AB CDP-Star, a new dioxetane substrate, can be used for the detection of alkaline phosphatase and alkaline phosphate conjugates either in solution or on solid supports. It is especially suited for highly sensitive and fast detection of nonradioactively labeled nucleic acids in Southern, Northern, colony or plaque hybridization, and nonradioactive DNA sequencing blots. By combining the high sensitivity and low background of the digoxigenin

labeling and detection system with this extremely fast and sensitive chemiluminescent substrate, nonradioactive nucleic acid labeling and detection of nucleic acids has become faster, more sensitive, and more convenient.

IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(rapid and highly sensitive detection of digoxigenin-labeled nucleic acids by improved chemiluminescent AP substrates CDP-Star and CSPD)

RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 57 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:316380 HCAPLUS
DOCUMENT NUMBER: 125:52702
TITLE: Chemiluminescent detection of DNA and protein with CDP and CDP-Star 1,2-dioxetane enzyme substrates
AUTHOR(S): Bronstein, I.; Olesen, C. E. M.; Martin, C. S.; Schneider, G.; Edwards, B.; Sparks, A.; Voyta, J. C.
CORPORATE SOURCE: Tropix, Inc., Bedford, MA, 01730, USA
SOURCE: Bioluminescence and Chemiluminescence: Fundamentals and Applied Aspects, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 8th, Cambridge, UK, Sept. 5-8, 1994 (1994), 269-272. Editor(s): Campbell, Andrew Keith; Kricka, Larry J.; Stanley, Philip E. Wiley: Chichester, UK. CODEN: 62UZAR
DOCUMENT TYPE: Conference
LANGUAGE: English

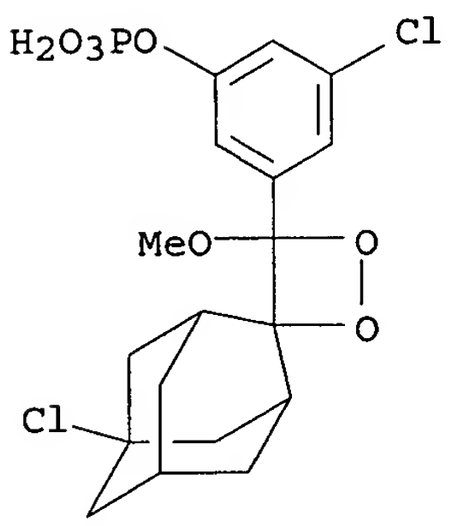
AB The anal. performance of 2 new 1,2-dioxetane substrates for alkaline phosphatase, CDP and CDP-Star, was reported. In a dot-blot detection of a biotinylated oligonucleotide on a nylon membrane, kinetic anal. indicated that CDP-Star reached maximum signal intensity within 2 h with an intensity which was 5- and 10-fold higher compared to CDP and CSPD, resp. CSPD reached a maximum intensity in 6 h, and CDP within 24 h. The pH optima for CSPD and CDP were determined to be 9.5 and that for CDP-Star 9 on a

nitrocellulose membrane with Nitro-Block II and 10 and 9.5, resp., on a pos. charged nylon membrane. CDP-Star showed a 10-fold greater sensitivity for the detection of human transferrin by Western blotting on nitrocellulose with Nitro-Block II compared with CSPD or CDP. Similar results were obtained in the detection of DNA by Southern blotting. In summary, CSPD, CDP, and CDP-Star substrates for alkaline phosphatase are well suited for attaining sensitive, high-resolution results in expts. utilizing a variety of membrane surfaces in the detection of protein and nucleic acid analytes.

IT **160081-61-8**, CDP
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(CDP; chemiluminescent detection of DNA and protein with CDP, CDP-Star, and CSPD 1,2-dioxetane enzyme substrates)

RN 160081-61-8 HCAPLUS

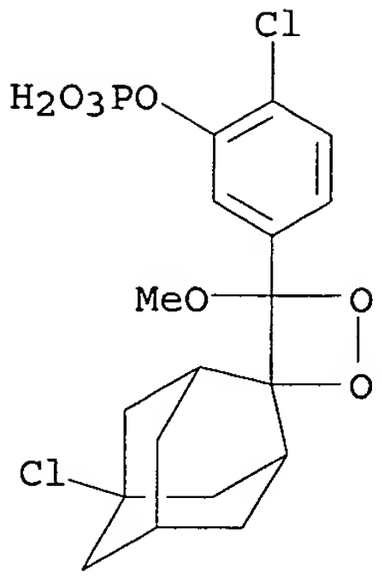
CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent detection of DNA and protein with CDP, CDP-Star, and CSPD 1,2-dioxetane enzyme substrates)

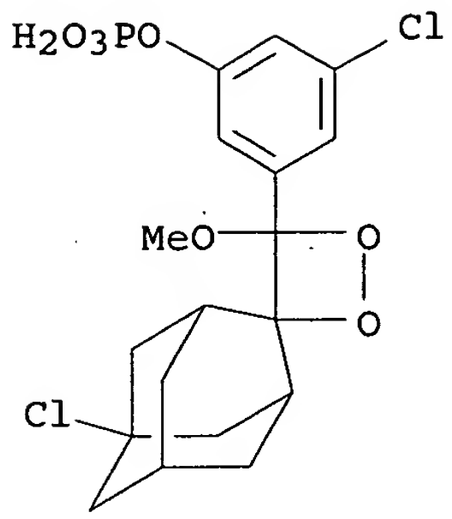
RN 160081-62-9 HCAPLUS

CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



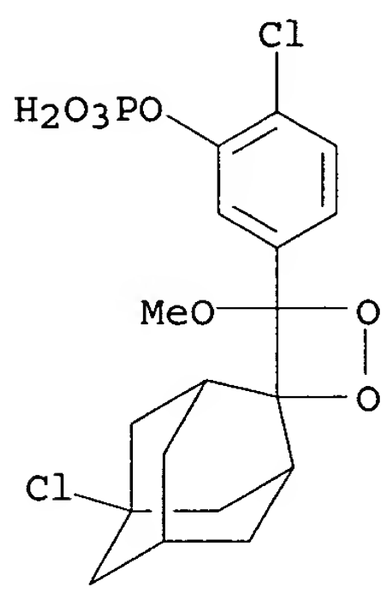
●2 Na

L21 ANSWER 58 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:316338 HCAPLUS
DOCUMENT NUMBER: 125:4050
TITLE: New chemiluminescent dioxetane enzyme substrates
AUTHOR(S): Edwards, B.; Sparks, A.; Cvoyta, J.; Bronstein, I.
CORPORATE SOURCE: Tropix Inc., Bedford, MA, 01730, USA
SOURCE: Bioluminescence and Chemiluminescence: Fundamentals and Applied Aspects, Proceedings of the International Symposium on Bioluminescence and Chemiluminescence, 8th, Cambridge, UK, Sept. 5-8, 1994 (1994), 56-59. Editor(s): Campbell, Andrew Keith; Kricka, Larry J.; Stanley, Philip E. Wiley: Chichester, UK. CODEN: 62UZAR
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The authors describe the anal. performance of new 1,2-dioxetanes which contain addnl. electron-active groups incorporated at the 4- or 5-position of the Ph ring with alkaline phosphatase.
IT **160081-61-8P 160081-62-9P 160081-63-0P**
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(new chemiluminescent dioxetane enzyme substrates)
RN 160081-61-8 HCAPLUS
CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



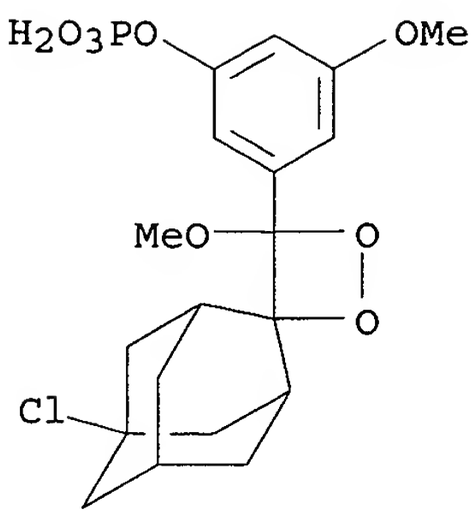
●2 Na

RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



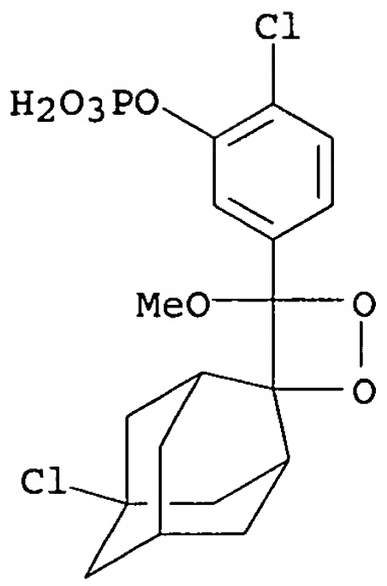
●2 Na

RN 160081-63-0 HCAPLUS
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-5-methoxy-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 59 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:805681 HCAPLUS
DOCUMENT NUMBER: 123:331083
TITLE: Ultra-rapid detection of mRNAs on Northern blots with digoxigenin-labeled oligonucleotides and 'CDP-Star', a new chemiluminescence substrate
AUTHOR(S): Trayhurn, P.; Thomas, M. E. A.; Duncan, J. S.; Black, D.; Beattie, J. H.; Rayner, D. V.
CORPORATE SOURCE: Division Biochemical Sciences, Rowett Research institute, Aberdeen, AB2 9SB, UK
SOURCE: Biochemical Society Transactions (1995), 23(3), 494S
CODEN: BCSTB5; ISSN: 0300-5127
PUBLISHER: Portland Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new 1,2-dioxetane derivative, CDP-Star (Tropix, USA), is used in conjunction with digoxigenin-labeled antisense oligonucleotides as probes for rapid detection of mRNA in Northern blots. Detection of the rat mRNA encoding GLUT1 was demonstrated and the results came within minutes.
IT **160081-62-9**, CDP-Star
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(ultra-rapid detection of mRNAs on Northern blots with digoxigenin-labeled oligonucleotides and CDP-Star, a new chemiluminescence substrate)
RN 160081-62-9 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L21 ANSWER 60 OF 60 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:662345 HCAPLUS
DOCUMENT NUMBER: 123:83353
TITLE: Preparation of adamantanylaryl-1,2-dioxetanes with improved chemiluminescence
INVENTOR(S): Bronstein, Irena; Edwards, Brooks; Sparks, Alison
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 17
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9426726	A1	19941124	WO 1994-US4555	19940506
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
ES 2131529	T3	19990801	ES 1992-915721	19920305
US 5538847	A	19960723	US 1993-57903	19930507
US 5582980	A	19961210	US 1994-231673	19940425
AU 9467741	A1	19941212	AU 1994-67741	19940506
AU 676327	B2	19970306		
EP 649417	A1	19950426	EP 1994-915887	19940506
EP 649417	B1	20010919		
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JP 2837276	B2	19981214		
AT 205839	E	20011015	AT 1994-915887	19940506
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US 5856522	A	19990105	US 1997-882330	19970625
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PRIORITY APPLN. INFO.: US 1993-57903 A 19930507

US 1994-231673	A	19940425
US 1989-367772	B3	19890717
US 1990-559152	B2	19900725
US 1990-574786	A3	19900830
US 1991-806925	B2	19911211
US 1991-806928	A2	19911212
EP 1992-915721	A	19920305
WO 1994-US4555	W	19940506
US 1995-433996	A1	19950504

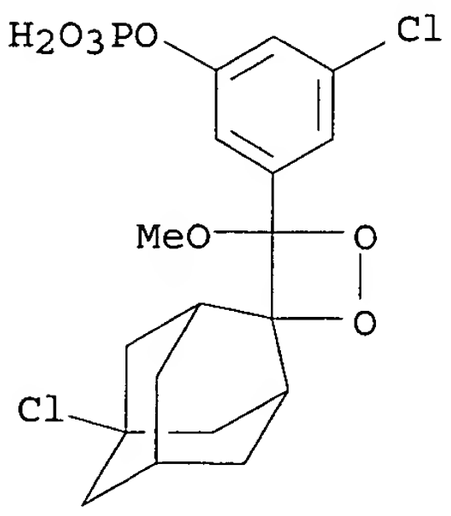
OTHER SOURCE(S): MARPAT 123:83353

AB Title compds. I and II (Y1, Y2 = H, HO, halo, (substituted) alkyl, (substituted)Ph, alkoxyphenoxy, hydroxyalkoxy, NC, amido, alkoxy, HO2C; R = C1-12 alkyl, aryl, aralkyl; X = an enzyme-labile group such as phosphate, galactoside, acetate, etc.; Z = Cl, ArO, ArCONH, O2N, Ar, F3C, ArSO2, Ar2Si, etc.) with properties such as signal intensity, S/N ratio, T1/2, etc. are prepared I and II are useful in enzyme, nucleic acid and the like assays. To 4-chloro-3-hydroxy-1-(methoxy-5-chlorotricyclo[3.3.1.1.3'7]dec-2-ylidenemethyl)benzene (preparation given), Et3N, and THF was added 2-chloro-2-oxo-1,3,2-dioxaphospholane to give Na 2-cyanoethyl 2-chloro-5-(methoxy-5-chlorotricyclo[3,3,1,13'7]dec-2-ylidenemethyl)-1-Ph phosphate to which in MeOH/CHCl3 was added 5,10,15,20-tetraphenyl-21H,23H-porphine to give after workup syn and anti-I (Y1 = H, Y2 = Cl, R = Me, X = Na2O3P, Z = 2-Cl). Chemiluminescent detection of I was demonstrated. A kit for conducting an assay employing I is claimed (no data).

IT **160081-61-8P 160081-63-0P 164905-22-0P 164905-23-1P**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(preparation of adamantanylaryl-1,2-dioxetanes with improved chemiluminescence)

RN 160081-61-8 HCAPLUS

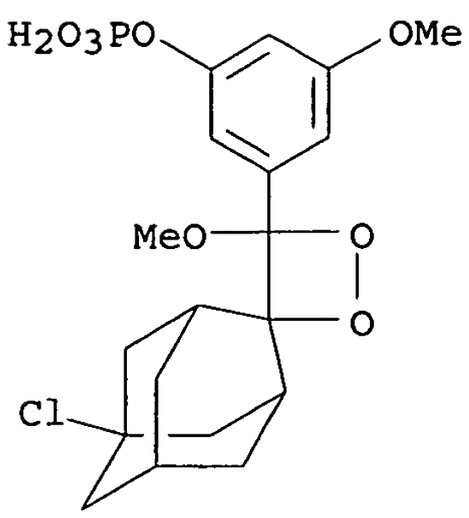
CN Phenol, 3-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 160081-63-0 HCAPLUS

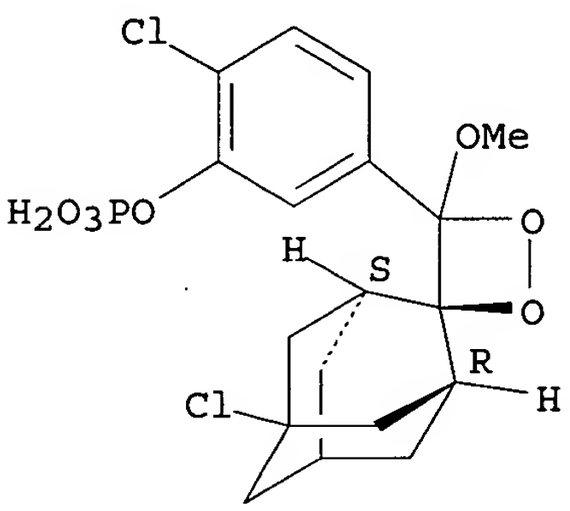
CN Phenol, 3-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-5-methoxy-, dihydrogen phosphate, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 164905-22-0 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt, stereoisomer (9CI) (CA INDEX NAME)

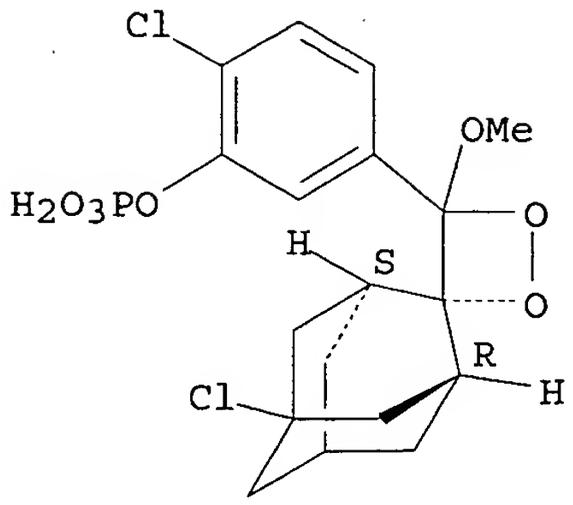
Relative stereochemistry.



●2 Na

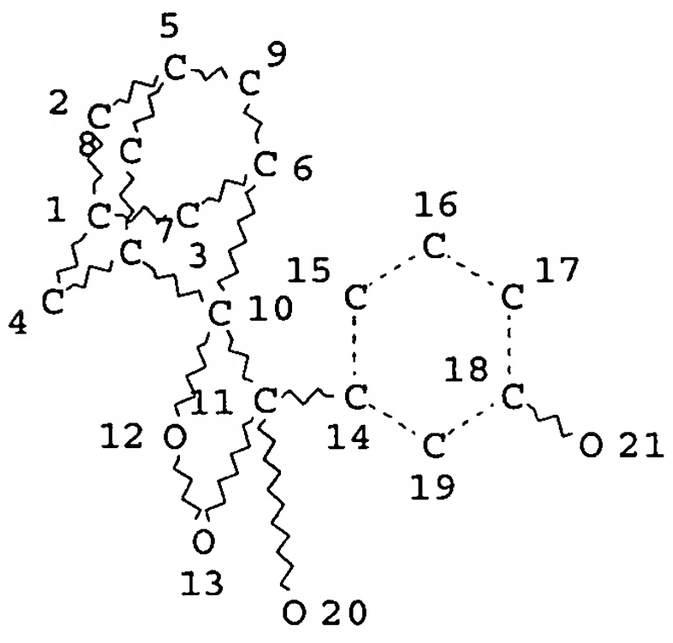
RN 164905-23-1 HCAPLUS
CN Phenol, 2-chloro-5-(5'-chloro-4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-, dihydrogen phosphate, disodium salt, (1'α,2'β,3'β,5'β,7'β)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



●2 Na

=> d que l28
L4 STR



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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
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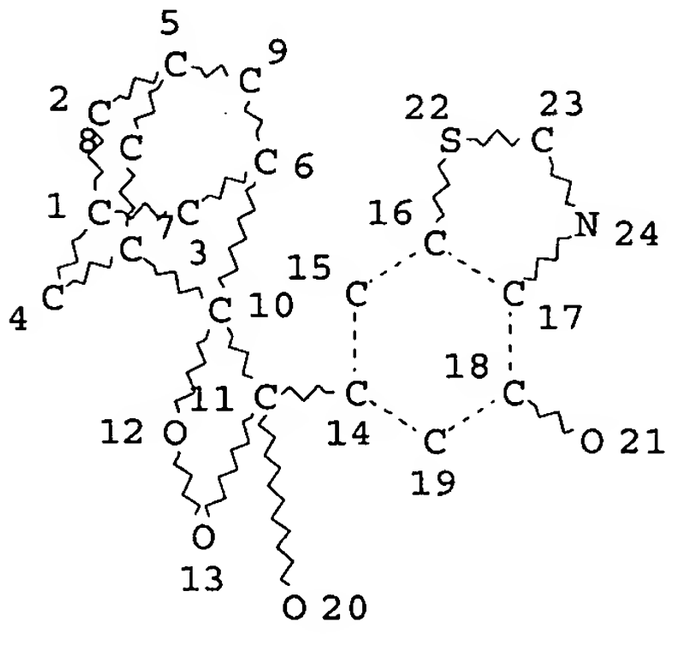
L25 STR



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L28 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:354036 HCAPLUS
DOCUMENT NUMBER: 136:349848
TITLE: Heteroaryl substituted benzothiazole dioxetanes
INVENTOR(S): Edwards, Brooks; Bronstein, Irena; Wang, Zhixian
PATENT ASSIGNEE(S): PE Corp., USA
SOURCE: U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S. 362,047.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002055181	A1	20020509	US 2001-945652	20010905
US 6660529	B2	20031209		
US 6355441	B1	20020312	US 1999-362047	19990728
US 2002042085	A1	20020411	US 2001-945661	20010905
WO 2003021228	A2	20030313	WO 2002-US28055	20020905
WO 2003021228	A3	20030814		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1436289	A2	20040714	EP 2002-797846	20020905
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
US 2004072252	A1	20040415	US 2003-679368	20031007

PRIORITY APPLN. INFO.:

US 1998-94336P	P	19980728
US 1999-362047	A2	19990728
US 2001-945652	A	20010905
WO 2002-US28055	W	20020905

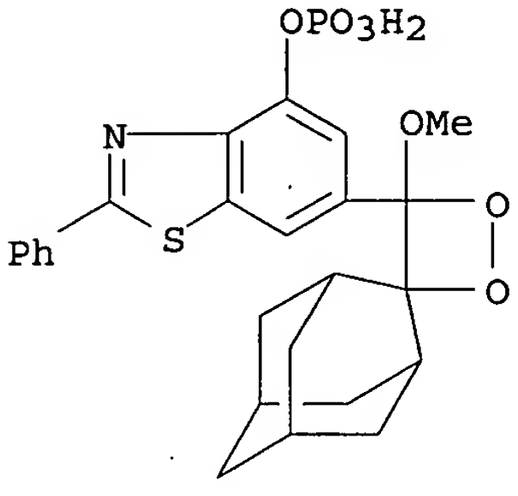
OTHER SOURCE(S): MARPAT 136:349848

AB Chemiluminescent heteroaryl substituted benzothiazole 1,2-dioxetane compds. capable of producing light energy when decomposed are provided. These chemiluminescent compds. are represented by the general formula: The heteroaryl substituent Y can be, for example, a pyridyl group or a benzothiazolyl group. The heteroaryl substituted benzothiazole compds. are substantially stable at room temperature Kits including the heteroaryl substituted dioxetane compds. as well as methods for using these compds. for detecting the presence of one or more analytes in a sample are also provided.

IT **256423-46-8P**, Disodium 6-[4-methoxyspiro-[1,2-dioxetane-3,2'-tricyclo(3.3.1.13,7)decan]-4-yl]2-phenylbenzothiazolyl-4-phosphate
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(heteroaryl substituted benzothiazole dioxetanes as improved chemiluminescent anal. reagents)

RN 256423-46-8 HCAPLUS

CN 4-Benzothiazolol, 6-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-2-phenyl-, dihydrogen phosphate (ester), disodium salt (9CI) (CA INDEX NAME)



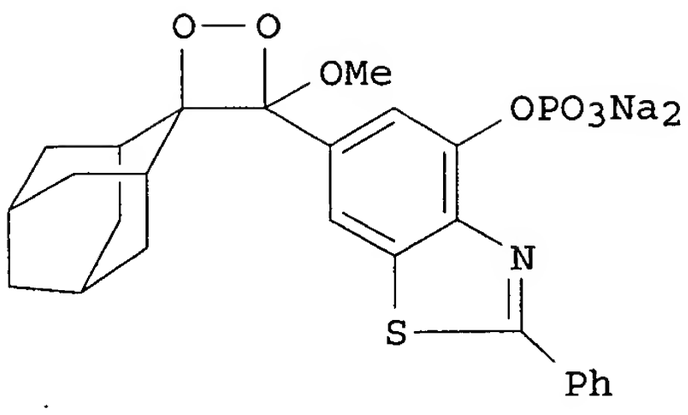
●2 Na

L28 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:98332 HCAPLUS
DOCUMENT NUMBER: 132:122616
TITLE: Benzothiazole dioxetanes
INVENTOR(S): Bronstein, Irena; Edwards, Brooks
PATENT ASSIGNEE(S): Tropix, Inc., USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000006164	A1	20000210	WO 1999-US17094	19990728
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2338883	AA	20000210	CA 1999-2338883	19990728
AU 9952376	A1	20000221	AU 1999-52376	19990728
EP 1115400	A1	20010718	EP 1999-937571	19990728
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002521447	T2	20020716	JP 2000-562018	19990728

PRIORITY APPLN. INFO.: US 1998-94336P P 19980728
WO 1999-US17094 W 19990728

OTHER SOURCE(S): MARPAT 132:122616
GI



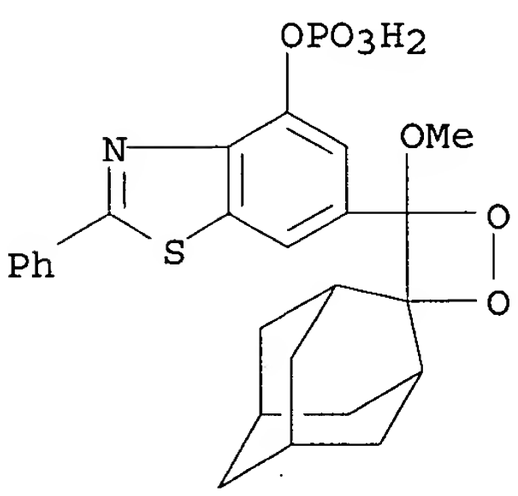
I

AB Enzymically cleavable chemiluminescent 1,2-dioxetanes such as I are prepared as reporter mols. for bioassays. Thus, I was prepared from 2,4-dibromo-6-methoxybenzenamine by sequential benzoylation, thionation, cyclization to 6-bromo-4-methoxy-2-phenylbenzothiazole, substitution of Br by CHO, acetalization, phosphorylation with P(OEt)3, condensation with 2-adamantanone, demethylation to the phenol, phosphorylation with POCl3, and oxygenation with 1O2. When compared to known detection agents, I offered superior sensitivity in detection of alkaline phosphatase even at very low concns. (≤10-17 M).

IT **256423-46-8P**
RL: BUU (Biological use, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(benzothiazole dioxetanes as reporter mols. for bioassays.)

RN 256423-46-8 HCAPLUS

CN 4-Benzothiazolol, 6-(4-methoxyspiro[1,2-dioxetane-3,2'-tricyclo[3.3.1.13,7]decan]-4-yl)-2-phenyl-, dihydrogen phosphate (ester), disodium salt (9CI) (CA INDEX NAME)



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REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT